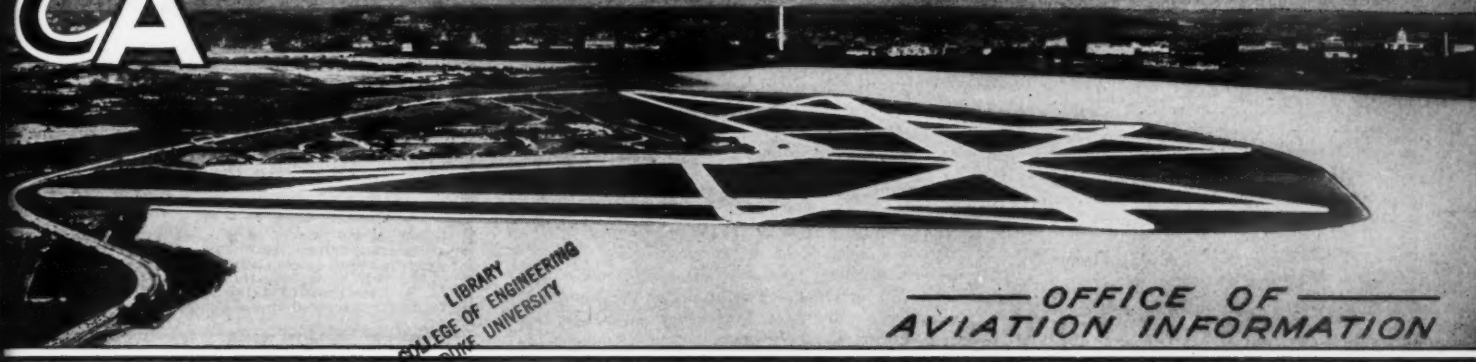


CA JOURNAL



Personal Flying Advanced By Winter's Relief Flights

"The year 1949 may be the year when personal flying got its greatest boost," D. W. Rentzel, Administrator of Civil Aeronautics, said recently in discussing the use of the airplane in the recent blizzard weather of the West.

"Within my memory of some 20 years in aviation, I have not seen such widespread attention given to the pilot and his personal plane. Nor have I ever seen the airplane so conclusively prove its value in the ordinary man's life. You might say the small airplane in the hands of the local pilot flew the whole gamut of news-producing and interest-provoking activities. It came out as a symbol of man's ability to combat and even conquer the worst that nature was able to hurl against him.

"Results will be a tremendous increase in the acceptance of the airplane in the very regions where it has previously shown itself most useful; and a heightened respect for the operator of the local flying field as an important man in the community's life. That will mean more business for plane builders and plane operators, and that, of course, is what we in the CAA are working for."

Plane Gets Favorable Attention.—Referring to virtual bales of clippings sent in by CAA men in the affected areas, Mr. Rentzel pointed out that private flying never had received so much or such favorable public attention. Among the clippings, he said, there were stories on almost any type of service or rescue by air that could be named. These ranged from the simple act of dropping concentrated food on flocks of sheep huddled in a fence corner, to the rescue of parents with a sick child floundering through snow drifts toward a town miles away.

"You don't have to prove to a rancher that an airplane is useful to him after it has saved his cattle, staved off his own hunger, or brought him fuel when all other methods of transportation had broken down. When even the bystanders in the cities chip in to buy a new airplane for the local operator after he had wrecked his own during a mercy flight, you really have established a mass base for airplane sales."

Weather Creates Drama.—Mr. Rentzel quoted a few dramatic episodes in the recent severe winter weather that crippled the West:

Residents of Fort Bridger, Wyo., cleared half a mile of roadway so that Fred J. Slightam, an airplane salesman of Ogden, Utah, could land and pick up Mrs. Ellen Lowery, suffering from a neck injury as a result of a fall at her snow-bound home.

(Continued on page 38)

Pilots Approve Newly Developed Runway Lights

Newly developed high-intensity runway lights visible from as far as 50 miles away, installed at Raleigh-Durham, N. C., and Charleston, S. C., airports under the Civil Aeronautics Administration Federal Aid Program, have been enthusiastically received by airline pilots.

Following a period of operations in which pilots have been asked to give their comments on the effectiveness of the lights, the CAA has prepared instructions to tower operators for their routine operation. These instructions concern principally control of the intensity of the lights and the angles of the brightest beam which they project along the runway toward the landing pilot. The fact that the lights can be seen in clear weather from great distances is not important, CAA lighting engineers say, but only indicative of the intensity that is available if needed.

"Development of these high-intensity runway lights by various manufacturers from broad specifications established by the CAA Lighting Division is a solid accomplishment in aviation," D. W. Rentzel, Administrator of Civil Aeronautics, said in reporting the pilot comments. "We have carefully avoided specifying detailed design of the lights, and have asked only for performance standards calculated to be of most value to the greatest number of pilots. As a result, excellent lights of several designs have been produced."

Safety Is Promoted.—"We have basic requirements for lights for safe landing which adequately promote safety on all airports. At large fields where traffic is heavier and of a different character, refinements of runway lights are advisable. We have left these matters largely to industry, and their collaboration with CAA lighting engineers has been very productive."

Airline pilots, observing the lights in weather with "indefinite" ceilings and visibility as low as $\frac{3}{16}$ of a mile, found that their intensity was adequate even in the worst weather. One pilot approaching the field under such conditions, flew over the field at Charleston at an altitude of 4,000 feet. There was a solid layer of stratus cloud below him, he reported.

(Continued on page 40)

National Airport Plan For 1949 Made Public by CAA

The 1949 National Airport Plan listing 4,977 locations at which airports should be constructed or improved on the basis of existing and anticipated demands for air service has been announced by D. W. Rentzel, Administrator of Civil Aeronautics.

This, the third in a series of such annual reports, was prepared by the CAA in accordance with the provisions of the Federal Airport Act of 1946, which requires the Administrator to prepare and revise annually a 3-year forecast of projects considered "necessary to provide a system of public airports adequate to meet the needs of civil aeronautics."

Of the 4,977 locations listed in the 1949 plan, 2,794 are for completely new airports while 2,183 are for improvements or development of existing fields. Although the plan does not represent an allocation of funds, the estimated cost of the construction and development outlined in the plan would be \$1,115,300,000, of which \$510,600,000 would be in Federal funds and \$604,700,000 in funds provided by the sponsors. On the basis of the appropriations to be made by Congress, CAA will program for the coming fiscal year the most important locations in the plan.

The 1949 plan lists a total of 567 Class IV and larger airports, of which 24 would be new and 543 for development; a total of 608 Class III airports with 165 new and 443 for development; a total of 1,048 Class II airports with 474 new and 574 for development and a total of 2,358 Class I airports of which 1,777 would be new and 581 for improvement. In addition the plan lists 291 new seaplane bases and improvement of 40 others and 63 new heliports and improvement of an additional 2.

Copies of the 1949 Plan may be obtained from the CAA Office of Aviation Information, Washington 25, D. C.

Budgetary Limitations Forces RTCA to Charge For Its Publications

Effective February 28, the Radio Technical Commission for Aeronautics, because of budgetary limitations, discontinued its previous policy of making its reports available upon request at no cost.

In the future, a nominal charge (to cover the cost of printing, handling, and mailing) will be made for copies of RTCA papers furnished to individuals and non-member organizations of RTCA. The following price list was established for RTCA papers released as of February 20, 1949:

Price List—RTCA Publications

Subject	Prepared by	Paper identification	Price per copy
Simplex-Crossband Communications.	SC1		\$0.10
Constitution and By-Laws.	SC2	16-47/DO-1	.15
VHF Frequencies—108-132 Mc.	SC4		.10
Air Navigation—Communication—Traffic Control.	SC8		.35
Air/Sea Distress Communications.	SC10	139-47/DO-8	.15
Precipitation Static.	SC15	68-47/DO-5	.10
Radio Equipment Form Factors.	SC20	46-47/EC-14 99-47/EC-28*	.15
DME Standardization.	SC21	6-47/EC-4	.10
Pairing of Localizer, Glide Slope, Range, and DME Frequencies.	SC22	76-48/DO-17	.25
Engineering Study of Factors Affecting the Choice of Frequencies for DME.	SC23	30-47/DO-2	.25
Nomenclature—ODR/ILS Systems.	SC24	22-48/DO-11 93-48/EC-63*	.20
Study of Harmonic Emissions from Television Stations.	SC26	111-48/DO-23	.15
Study of Aeronautical Frequency Allocations Above 400 Mc.	SC27	55-47/DO-3	.10
Equipment Standards for VHF Airborne Control Stations.	SC29	66-47/DO-4	.15
Resumé of U. S. Planning in Air Navigation—Communication—Traffic Control.	SC30	85-48/DO-19	.25
Air Traffic Control.	SC31	27-48/DO-12	1.00
Standardization of Airborne Glide Path Receiver Adjustment.	SC32	106-47/DO-6	.15
Testing Program for Long Range Navigational Facilities.	SC33	44-48/DO-14	.10
Long Distance Air Navigation Aids in the North Atlantic.	SC33	50-48/DO-16	.10
Study of Simplex vs. Cross-Band Operation as Applied to International Aeronautical Air-Ground Communications.	SC34	45-48/DO-15	.20
Implementation of Frequency Assignment Plan for VHF Airport Control Stations.	SC36	122-47/DO-7	.15
Standardization of DME Test Procedures—Narrow Band System—Pulse-Multiplex System.	SC40	95-48/DO-21	.15
DME System Characteristics (Transition Period).	SC40	121-48/DO-24	.75
Performance Characteristics—Private-Line/Transponder Element of the Common ATC System and the Transition Period Transponder.	SC41	96-48/DO-22	.25
Implementation of the VHF Emergency Frequency 121.5 Mc.	SC42	84-48/DO-18	.10
Implementation of the Air Carrier Aircraft to Airway Station VHF Communication Frequency 126.7 Mc.	SC42	14-49/DO-25	.10
Power Output—Airborne VHF Transmitters.	SC43	41-48/DO-13	.10
Air Traffic Control Procedures—Transition Period.	SC45	90-48/DO-20	.35

*Supplementary material.

Announcement of the availability of RTCA papers (with price listing) will continue to be published in

Personal Flying Advanced By Winter's Relief Flights

(Continued from page 37)

Grateful residents of Ewing, Nebr., raised approximately \$3,000 and bought a new plane for Carl Hubel who crashed and wrecked his plane while flying a load of bulldozer parts to a stalled road-clearing crew.

At O'Neill, Nebr., 70 mercy flights were flown in 1 day.

Injured Man Rescued.—William Harrison, Granby, Colo., was rescued after 6 days in a sheepherder cabin on a plateau 8,000 feet high in temperature around 40 below. He had crashed in his plane while engaged in rescue missions. It was feared his feet would have to be amputated.

From the report of a CAA Safety Agent: "During the past month aircraft was the only method of travel in many sections of northern Nebraska. It is believed that many more ranchers will be sold on aviation as a result of the utility of aircraft during the emergency. Inquiries were made of 12 operators working from these airports and the best estimate I was able to make indicates that approximately 3,500 flights were made. It is unlikely that the total number of flights ever will be known, but I believe it is safe to estimate that for the state of Nebraska, it will be near the 10,000 mark to date. During my visit at Ogalalla a rancher from Whitman told me that he had made approximately 50 flights delivering groceries totaling 1,800 pounds to his neighbors. The Red Cross has also set up headquarters and during a 9-day period has sent out 153 flights."

From the brief reports of operators in the area to the CAA, many capsule dramas appear. Each of these made feature articles in the local papers, but even when they are boiled down into report form, they are alive with human interest.

Baby Flown to Hospital.—"Flew mother with baby to Children's Hospital, Denver. Baby had peatun in lung and was en route to Denver by bus when bus stalled in Wheatland."

"Rode REA line to find break and direct repairman so that Chugwater would have electricity to run pump for town water supply."

"Checked on an odd group, man breaking trail for horse, woman holding bundle. Throttled back to see if they needed help. They did. Baby was very ill so landed on small ridge top and flew Mrs. Hacker and baby to Torrington to hospital. (It was miles to a road and the new cold was moving in.)"

Wheat Saved From Ruin.—"Flew to Slater Flats and dug out snow sifted 3 feet thick over bins of wheat. If allowed to melt, would have ruined thousands of bushels."

"Made emergency trip in storm to Forrest Jenkins ranch for little girl with acute appendicitis. She was operated on within an hour of arrival at hospital. Recovering O. K."

Operators in general forgot the question of pay during the emergency. As one of them put it: "The use of all Wyoming Skyways equipment and personnel for rescue work was suggested. Wherever human life was at stake the services were offered without regard for anyone's ability to pay for them."

Another operator made his observation of the effect of the little airplane airlift: "The emergency period proved again the utility of the small airplane, especially to the rural people. Many of the ranchers will remember the piddle-jumper with gratitude for a long time to come."

the Civil Aeronautics Journal. Requests for copies of RTCA papers should be addressed to the RTCA Secretariat, Room 597, State Department Building, 17th and Pennsylvania Avenue NW., Washington 25, D. C., and should be accompanied by payment either in cash or by check or money order payable to the Radio Technical Commission for Aeronautics.

Vol. 10 April 15, 1949 No. 4



CAA JOURNAL

DEPARTMENT OF COMMERCE
Charles Sawyer, Secretary

Civil Aeronautics Administration
D. W. Rentzel, Administrator

Ben Stern, Director
Office of Aviation Information

Issued on the 15th of each month by the Office of Aviation Information. Subscription 75 cents a year in the U. S. and Canada. Foreign countries, \$1.00. Sold by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Approved by the Bureau of the Budget.

Publication Being Revised To Meet ICAO Standards

Several changes are being made in the Civil Aeronautics Administration publication FACTS OF FLIGHT to conform with the standards recently set up by the International Civil Aviation Organization.

Corrections to be made in FACTS OF FLIGHT are as follows:

PAGE 32, Column 1

Paragraph 1—Add "Steady" as first word in paragraph. Last sentence should read: "A flashing white light means 'RETURN TO STARTING POINT ON AIRPORT'."

Paragraph 2—Add "Flashing" as first word in paragraph. Also in first sentence, change "steady green means 'PROCEED WITH TAKE-OFF'" to read "steady green means 'CLEARED FOR TAKE-OFF'."

Paragraph 3—At the end of the paragraph, add the sentence: "Flashing red means 'AIRPORT UNSAFE—DO NOT LAND'."

Paragraph 4—Delete entire paragraph and substitute: "The lighting of the rotating beacon during the hours of daylight, or flashing lights outlining the traffic direction indicator (tetrahedron or wind tee) during the hours of darkness will mean that ground visibility is less than three miles and/or ceiling is below 1,000 feet."

PAGE 32, Column 2

Under the list headed SPOKEN WORDS, change "Say again" to read "Repeat".

Mail Pay Requirements Studied

The Civil Aeronautics Board has instituted an investigation into the reasons for the differences in mail pay requirements between American, Eastern, United, and TWA to determine to what extent, if any, these differences may be occasioned by uneconomical and inefficient management, and to explore remedial action to be taken by the Board or the carriers to eliminate or decrease dependence upon the Government for "need" mail payments. The order for the investigation was issued in connection with the Board's recently announced economic program for 1949.

CIVIL AERONAUTICS JOURNAL

RTCA Program To Bring Revolutionary Changes, Radio Engineers Told

Revolutionary changes in our air navigation and traffic control system will take place during the next 15 years, D. W. Rentzel, Administrator of Civil Aeronautics, told the annual meeting of the Institute of Radio Engineers in New York last month.

The Administrator outlined a program in this field which he said "will have a major impact on the American way of living and on our ability to defend ourselves in case of war."

He described the program, to which all significant groups connected with civil and military aviation have agreed, as having two stages.

The first, or transition phase, he said should be completed about 1953. It includes omni-directional radio ranges to blanket most of the country with static-free signals, and associated with them will be distance-measuring equipment and an "electronic brain" called a course-line computer. These devices, according to the Administrator, "will make possible multiple airways between cities, relieving the traffic congestion which already has passed the saturation point in many parts of the country."

Radar Aids Traffic Control.—Under the transition program, he stated, ground-controlled approach radar to "talk pilots down" will be installed in conjunction with instrument landing systems at the busiest airports, while at other large airports surveillance radar will be installed as a traffic control aid.

The ultimate program projected for the 1960's envisions new applications of radar and television to "solve the weather problems which plague aviation today" and "permit aircraft to fly their schedules with clock-like precision and absolute reliability."

In case of war, he said, it "will give instant warning of unfriendly aircraft" and "permit quick and heavy concentration of airpower anywhere it is needed within the country."

The Administrator credited the Radio Technical Commission for Aeronautics with development of the program.

Eighty Airports Have ILS.—At present there are about 80 civilian Instrument Landing Systems in operation, he said. Improved-type surveillance and precision radar equipment for ground controlled approaches are in operation at La Guardia Field, at Washington National Airport, and at Chicago. Additional GCA radar sets are being installed at the busiest airports as rapidly as funds and manufacturers' delivery schedules permit.

"At other large airports CAA is planning to install the surveillance radar unit alone," the Administrator said. "This will permit the traffic controller to watch all the aircraft in his vicinity through radar, even when the weather has closed in. The controller can be certain that each plane is in its reported position, thus reducing collision hazards and speeding up the landing and take-off sequences at the airport."

Radar System Being Developed.—"There has been some misunderstanding by the public of the whole subject of radar. Many people believed that war-developed radar would, in some magic way, instantly transform aviation into an all-weather transportation system, free of hazards and navigation problems. Ultimately, it promises to do just that. But we still have quite a way to go.

"For one thing, military ground radar equipment designed for use on the fighting fronts proved to be inefficient and unsatisfactory for everyday civilian use. An extensive program was necessary to design, test, and produce ground radar which is economical and equally useful for civilian and military aircraft.

CAA Exhibit Draws Interest of Radio Engineers



Three CAA exhibits, one shown in background above, were used by D. W. Rentzel, Administrator of Civil Aeronautics, in his address on the RTCA program for new aids to air navigation at the President's luncheon, Institute of Radio Engineers, in New York last month. Discussing the improved-type radar equipment, depicted in the exhibit shown here, are Administrator Rentzel, center, with Hector Skifter, left, President of Airborne Instruments Laboratory, and Stuart L. Bailey, President of the Institute of Radio Engineers.

"Airborne radar, as produced during the war, was a heavy item of equipment. Also, it required one or more men to operate it, in addition to other members of the crew. Overseas, where there were no other navigation aids, it was a necessary piece of military equipment, well worth the extra weight and manpower," the Administrator continued.

Wartime Radar Modified.—"But in a country like the United States with adequate navigation aids, airborne radar of the wartime type cannot justify itself in commercial operation. A pilot can get far more navigational information from radio ranges, and use it more easily, than from radar equipment in his plane.

"However, airborne radar does show promise in two special fields. Numerous experiments have indicated that a satisfactory light weight radar can be produced which will help pilots to detect and fly around thunderstorms and other turbulent areas. Eventually, also, someone may develop a satisfactory radar collision warning device.

"New applications of radar and television really will come into their own in the ultimate RTCA program, which will provide an air traffic system of almost inconceivable magnitude and precision. Some of the equipment needed has not yet been invented. But the specifications have been laid down, and the principles on which it will operate are understood. No one doubts the ability of American electronic engineers to produce the needed air and ground devices."

Operation of System Explained.—The Administrator outlined in a general way the operation of the ultimate air navigation system as follows:

"Before a pilot even takes off on a flight, a landing time will be reserved for him at his airport of destination," the Administrator explained. "As he flies along, a dial will tell him in minutes and seconds whether he is ahead or behind his exact schedule, and he will slow down or speed up accordingly.

"In the cockpit the pilot will see a pictorial presentation of everything around him. This picture, probably televised to him from the ground, will show his own aircraft in relation to others in his vicinity, indi-

cate obstructions or other hazards, and even show the location of storms and turbulent air."

Block System Devised.—"At the same time," the Administrator continued, "radar will be continuously watching him from the ground. By means of a block system, something like that used on railroads, the pilot will be assured that he is in safe air space at all times.

"The aircraft of the 1960's will carry equipment which continuously transmits to the ground the readings of the various cockpit instruments. Electronic brains on the ground will check these readings automatically against information derived from radar and other sources. If, for example, the altitude shown by ground radar differs from the altimeter reading in the cockpit, the pilot will be instantly and automatically notified.

"If the pilot wishes to change his altitude or his flight plan, he will be able to query the ground stations by pushing an appropriate button. Approval or disapproval will be flashed back to his cockpit in a fraction of a second, since the calculations will be made by automatic machines on the ground."

To Solve Weather Problems.—"This ultimate system, fantastic though it may sound, is designed to meet the everyday needs of civil and military aviation 15 years hence. It will, of course, solve the weather problems which plague aviation today, and it will permit aircraft to fly their schedules with clocklike precision and absolute reliability," the Administrator said.

"Furthermore, the RTCA system is designed with military as well as civilian requirements in mind. In case of war, the system will give instant warning of unfriendly aircraft, and permit interceptors to be vectored to attack. It will permit quick and heavy concentration of airpower anywhere it is needed within the country, and then assist in maintaining a continuous flow of supplies and manpower to the area.

"This tremendous new program, on which the Army, Navy, Air Force and CAA are jointly agreed, will open the way for a whole new era of aviation in which the blessings of fast, safe, reliable low-cost transportation will be shared by every American citizen."

Administrator's Regulations

(Through March 31, 1949)

Note: Date of publication in the Federal Register and the price of that issue of the Federal Register are indicated, in parentheses. Copies of the Federal Register may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Remittances should be by check or money order, payable to the Superintendent. Currency is sent at sender's risk.

Part 405—Procedure of the Civil Aeronautics Administration. (Published as Part 651; September 11, 1946—Part 2, Section 2. 40¢.)

Amendment 1. (November 13, 1946. Out of print.)

Amendment 2. (December 4, 1946. Out of print.)

Amendment 3. (January 3, 1947. 15¢.)

Amendment 4. (January 7, 1947. 15¢.)

Amendment 5. (April 8, 1947. 15¢.)

Amendment 6. (April 30, 1947. 15¢.)

Amendment 7. (September 16, 1947. 20¢.)

Amendment 8. (June 5, 1948. 15¢.)

Amendment 9. (September 11, 1948. 15¢.)

Part 406—Rules of Practice Governing Proceedings to Alter Amend, or Modify Certificates. (Published as Part 652; March 27, 1947. 15¢.)

Part 407—Seizure of Aircraft. (February 19, 1949. 15¢.)

(Supersedes Part 531, effective April 1, 1949.)

Part 450—Inter-American Aviation Training Grants. (Published as Part 690; May 21, 1948. 15¢.)

Part 501—Aircraft Registration Certificates. (April 30, 1947. 15¢.)

Part 502—Dealers' Aircraft Registration Certificates. (April 30, 1947. 15¢.)

Part 503—Recordation of Aircraft Ownership. (September 11, 1948. 15¢.)

Part 504—Recordation of Encumbrances Against Specifically Identified Aircraft Engines. (September 11, 1948. 15¢.)

Part 505—Recordation of Encumbrances Against Aircraft Engines, Propellers, Appliances, or Spare Parts. (September 11, 1948. 15¢.)

Part 550—Federal Aid to Public Agencies for Development of Public Airports. (March 18, 1948. 15¢.)

Amendment 1. (Apr. 30—corrected May 12—1948. 15¢ each.)

Amendment 2. (June 11, 1948. 15¢.)

Amendment 3. (November 4, 1948. 15¢.)

Amendment 4. (December 14, 1948. 15¢.)

Amendment 5. (January 4, 1949. 15¢.)

Amendment 6. (January 29, 1949. 15¢.)

Part 555—Acquisition by Public Agencies for Public Airport Purposes of Lands Owned or Controlled by the United States. (January 9, 1947. 15¢.)

Amendment 1. (February 21, 1947. 15¢.)

Amendment 2. (April 1, 1948. 15¢.)

Part 560—Claims for Reimbursement for Rehabilitation or Repair of Public Airports Damaged by Federal Agencies. (January 9, 1947. 15¢.)

Amendment 1. (October 21, 1948. 15¢.)

Part 570—General Regulations of Washington National Airport. (Published as Part 510; January 23, 1947. 15¢.)

Amendment 1. (December 30, 1948. Pt. 1 20¢.)

Amendment 2. (January 5, 1949. 15¢.)

Part 571—Aeronautical Rules for the Washington National Airport. (Published as Part 511; January 23, 1947. 15¢.)

Amendment 1. (January 5, 1949. 15¢.)

Part 600—Designation of Civil Airways. (June 28, 1947. 15¢.)

Amendment 1. (September 16, 1947. 20¢.)

Amendment 2. (December 3, 1947. 15¢.)

Amendment 3. (March 6, 1948. 15¢.)

Amendment 4. (April 27, 1948. 15¢.)

Amendment 5. (May 15, 1948. 15¢.)

Amendment 6. (June 29, 1948. 15¢.)

Amendment 7. (August 17, 1948. 15¢.)

Amendment 8. (September 30, 1948. 15¢.)

Amendment 9. (October 15, 1948. 15¢.)

Amendment 10. (October 21, 1948. 15¢.)

Amendment 11. (November 30, 1948. 15¢.)

Amendment 12. (December 4, 1948. 15¢.)

Amendment 13. (December 29, 1948. 20¢.)

Amendment 14. (February 2, 1949. 15¢.)

Part 601—Designation of Control Areas, Control Zones, and Reporting Points. (June 28, 1947. 15¢.)

Amendment 1. (September 16, 1947. 20¢.)

Amendment 2. (October 15, 1947. 15¢.)

Amendment 3. (October 23, 1947. Out of print.)

Amendment 4. (December 3, 1947. 15¢.)

Amendment 5. (March 6, 1948. 15¢.)

Amendment 6. (April 27, 1948. 15¢.)

Amendment 7. (May 15, 1948. 15¢.)

Amendment 8. (June 29—corrected July 16—1948. 15¢ each.)

Amendment 9. (July 9, 1948. 15¢.)

Amendment 10. (August 17, 1948. 15¢.)

Amendment 11. (August 31, 1948. 15¢.)

Amendment 12. (September 30, 1948. 15¢.)

Amendment 13. (October 15, 1948. 15¢.)

Amendment 14. (October 21, 1948. 15¢.)

Amendment 15. (November 30, 1948. 15¢.)

Amendment 16. (December 4, 1948. 15¢.)

Amendment 17. (December 29, 1948. 30¢.) (Corrected January 26, 1949. 15¢.) Corrected March 1, 1949. 15¢.)

Amendment 18. (February 2, 1949. 15¢.)

Amendment 19. (February 19, 1949. 15¢.) (Effective March 8, 1949.)

Part 609—Standard Instrument Approach Procedure. (March 19, 1948. 15¢.)

Amendment 1. (September 11, 1948. 15¢.)

Part 610—IFR Altitude Minimums. (November 19, 1947. 15¢.)

Amendment 1. (November 26, 1947. 15¢.)

Amendment 2. (April 3, 1948. 15¢.)

Part 625—Notice of Construction or Alteration. (June 26, 1948. 15¢.)

Part 635—Reproduction and Dissemination of Current Examination Materials. (Published at Part 532; January 19, 1943. Out of print.)

Air Regulations . on April 1, 1949

TITLE	No.	PART			MANUAL		
		Price	Date	No. of Amend-ments	Price	Date	No. of Amend-ments
Aircraft							
Airworthiness Certificates.....	1	\$0.05	10/15/42	4	None	None	
Type and Production Certificates.....	2	.05	7/1/46	1	\$0.10	8/1/46	
Airplane Airworthiness—Normal, Utility, Acrobatic, and Restricted Purpose Categories.....	13	.25	12/15/46	4	None	None	
Airplane Airworthiness.....	4a	.25	11/1/47	1	.75	7/1/44	2
Airplane Airworthiness Transport Categories.....	14b	Free	11/9/45	10	None	None	
Rotocraft Airworthiness.....	6	.10	5/24/46	2	None	None	
Aircraft Airworthiness, Limited Category.....	9	.05	11/21/46	2	None	None	
Engine Airworthiness.....	13	.05	8/1/41		None	None	
Propeller Airworthiness.....	14	.05	7/15/42	1	.15	5/1/46	
Equipment Airworthiness.....	15	.05	5/31/46		None	None	
Radio Equipment Airworthiness.....	16	.05	2/13/41		Free	2/13/41	1
Maintenance, Repair, and Alteration of Aircraft, Engines, Propellers, Instruments.....	18	.05	9/1/42		.60	6/1/43	
Airmen							
Pilot Certificates.....	20	.05	11/10/48	1	None	None	
Airline Pilot Rating.....	21	.05	10/1/42	5	None	None	
Lighter-than-air Pilot Certificates.....	22	.05	10/15/42	5	None	None	
Mechanic Certificates.....	24	.05	7/1/43	3	None	None	
Parachute Technician Certificates.....	25	.05	12/15/43	5	None	None	
Traffic Control Tower Operator Certificates.....	26	.05	10/10/45	4	None	None	
Aircraft Dispatcher Certificates.....	27	.05	7/1/46	3	None	None	
Physical Standards for Airmen.....	29	.05	1/10/46		None	None	
Flight Radio Operator Certificates.....	33	.05	8/1/47	1	None	None	
Flight Navigator Certificates.....	34	.05	8/1/47	1	None	None	
Flight Engineer Certificates.....	35	.05	11/10/48		None	None	
Operation Rules							
Air Carrier Operating Certification.....	40	.10	7/10/46	2	None	None	
Scheduled Air Carrier Operations Outside Continental United States.....	41	.10	7/20/48	2	None	None	
Nonscheduled Air Carrier Certification and Operation Rules.....	42	.05	8/1/46	10	.15	11/1/46	
General Operation Rules.....	43	.05	12/1/47	4	None	None	
Foreign Air Carrier Regulations.....	44	.05	11/1/47		None	None	
Commercial Operator Certification and Operation Rules.....	45	Free	6/1/49		None	None	
Operation of Moored Balloons.....	48	.05	9/28/47		None	None	
Transportation of Explosives and other Dangerous Articles.....	49	.05	7/1/45	1	None	None	
Air Agencies							
Airmen Agency Certificates.....	50	.05	4/30/46		.15	5/15/46	2
Ground Instructor Rating.....	51	.05	12/15/43	3	None	None	
Repair Station Rating.....	52	.05	10/1/42	1	No stock	2/41	
Mechanic School Rating.....	53	.05	8/1/42	1	Free	5/40	
Parachute Loft Certificates and Ratings.....	54	.05	1/21/43		.15	7/1/43	
Air Navigation							
Air Traffic Rules.....	60	.10	10/8/47	4	\$1.00	8/1/48	
Scheduled Air Carrier Rules.....	61	.10	6/15/48	3	None	None	
Notice and Reports of Aircraft Accidents and Missing Aircraft.....	62	Free	5/1/49		None	None	
Miscellaneous							
Rules of Practice Governing Suspension and Revocation Proceedings.....	97	Free	1/1/47	1	None	None	

¹ Certain aircraft may comply with the provisions of this part or part 4a.

² Special regulations SR-324, SR-324-A.

³ Special regulations SR-323, SR-323-A, SR-326.

⁴ Special regulations 397, 397-A, SR-325. Interpretation No. 1.

⁵ Special regulation SR-325.

⁶ Special regulations 397, 397-A, SR-323, SR-323-A, SR-325.

⁷ Combined with Flight Information Manual, Vol. 3, No. 2.

⁸ Revised Part 42 "Irregular Air Carrier and Off-Route Rules" will become effective June 1, 1949.

NOTE: Those parts and manuals for which there is a price are obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Remittances should be by check or money order, payable to the Superintendent. Currency is sent at sender's risk. Amendments, Special Regulations and free Parts are obtained from the Publications Section, Civil Aeronautics Board, Washington 25, D. C.; free Manuals from the CAA Office of Aviation Information, Dept. of Commerce, Washington 25, D. C.

New Runway Lights Approved

(Continued from page 37)

He requested the lights be turned to maximum brightness and then reported that they clearly outlined the runway.

Another pilot landing at Charleston in light rain found the lights visible from 12 miles away when he had a ceiling of 1200 feet and a reported visibility of six miles. As he approached, he said the runway lights were too bright. The lights were turned down to position three, and the pilot landed. He reported that because of the light rain, and its effect on his windshield, the lights were still quite bright.

Lights Called Marvelous.—At Raleigh-Durham, N. C., one pilot reported he thought the field was on fire. Another commented, "These lights are marvelous in stuff like this," when he made his landing with a 600-foot ceiling and overcast, lower broken clouds, light rain and fog reducing the visibility to two and a half miles.

Another pilot reported he could not have made his

landing at any other field not similarly equipped. He came in with an indefinite ceiling of 200 feet, with scattered clouds at 100 feet and a visibility of three-quarters of a mile, with rain and fog.

High-intensity runway lights are being installed with CAA aid at airports throughout the country where scheduled night flying is conducted. Development work still is under way on such lights by the CAA at Indianapolis, and at the Landing Aids Experiment Station at Arcata, Calif.

Analyses Division Chief Named

The Civil Aeronautics Board on March 21 announced the appointment of G. Bernard Slebos as Chief, Analyses Division, Bureau of Economic Regulation, to succeed Frank H. Crozier, recently appointed Special Adviser to the Board.

Mr. Slebos, a graduate of George Washington University, previously held the position of Chief, Accounts and Reports Section, Bureau of Economic Regulation. He has been with the Board since its organization in 1938.

Board Fixes Temporary Mail Pay For Four Alaskan Air Carriers

The Civil Aeronautics Board on March 18 issued a statement of policy with respect to its mail rate program for Alaskan air carriers.

Rate actions taken by the Board during 1948, together with those released on March 18, have established temporary rates for the eight Alaskan air carriers certificated for the carriage of mail.

"Permanent rate decisions will be issued as rapidly as the Board's staff can analyze the operating and financial results of the carriers' operations," the Board's statement said. "Audits of the records of the carriers have been, or shortly will be, completed, and it is expected that final mail rates will be established during 1949 for all carriers for at least the past periods of operation through December 31, 1948."

Existing Policy Reaffirmed.—"In view of the fact that safety and economic regulatory requirements have only recently been applied to Alaskan air carriers and the fact that there is some misunderstanding on the part of such carriers as to the propriety of inclusion of expenses for compliance with safety and economic regulations for mail pay purposes, we wish to reaffirm our existing policy regarding costs of this nature and to state that such expenses will be allowable in the determination of mail compensation for Alaskan air carriers," the statement continued.

The actions taken on March 18, together with orders previously issued, will provide substantial assistance to Wien, Cordova, Reeve, and Northern Consolidated by fixing temporary compensation for past periods which, the Board said, "it is believed will approximate the final rates later to be established. A further order will provide Alaska Airlines with final mail compensation for a past period of operation. Available data indicate that no further action in advance of permanent rate decisions is required for Alaska Coastal, Ellis, and Pacific Northern."

"It is anticipated that under conditions of honest, economic, and efficient management the rate actions indicated above will contribute to the placing of revenues of Alaskan air carriers in a healthier relation to their expenses and will facilitate their efforts to secure adequate equity financing and other long-term financing on reasonable terms," the Board said.

Four Orders Issued.—The Board issued a series of orders affecting Alaskan Airlines, Cordova Air Services, Reeve Airways, and Wien Alaska Airlines.

The Board issued a statement of tentative findings and conclusions and an accompanying order requiring Alaska to show cause why its final mail compensation for a past period from January 1, 1943 through September 3, 1945 should not be fixed at \$485,000. Compensation in this amount is equivalent to 17.3 cents per revenue plane-mile flown in recognized services and would provide Alaska with a lump sum payment of \$415,089 for the period in addition to mail pay already received.

An order required Cordova Air Services to show cause why its present temporary mail rates should not be increased to provide a total payment of \$20,000 for a past period from January 1, 1948 through December 31, 1948. These rates will give Cordova a lump sum payment of approximately \$9,000 for the past period in addition to mail pay already received. The order also requires Cordova to show cause why its present temporary rates should not be increased, effective March 1, 1949, to \$2.00 per airplane-mile based upon designated mail mileage of 840 miles per month.

Reeve Mail Rate Proposed.—Another order required Reeve Airways to show cause why its temporary mail compensation for the period April 8, 1948 through December 31, 1948 should not be fixed

at \$32,000. The order also required Reeve to show cause why its temporary mail rates on and after January 1, 1949 should not be fixed at 45 cents per airplane-mile based upon designated mail mileage of 22,300 miles per month.

A fourth order required Wien Alaska Airlines to show cause why its present temporary mail rates should not be increased to provide a total payment of \$240,000 for a past period from January 1, 1948 through December 31, 1948. These rates will give Wien a lump sum payment of approximately \$178,000 for the past period in addition to mail pay already received. The order also requires Wien to show cause why its present temporary rates should not be increased, effective January 1, 1949, to \$1.75 per airplane-mile based upon designated mail mileage of 9,000 miles per month.

Data on Use of Planes Asked in Survey by CAA

The Civil Aeronautics Administration currently is asking 16,000 aircraft owners how they used their planes in 1948. Administrator D. W. Rentzel announced March 31.

The survey, the third of its kind on an annual basis since 1946, is designed to show the type and amount of use of civil aircraft throughout the country, exclusive of those aircraft operated by the CAA and the scheduled air carriers.

As in the two reports resulting from previous surveys, the pattern of flying by aircraft owners during 1948 will be shown. These reports have been of practical value to the aviation industry, showing the trends in flying whether they be instructional, business, or pleasure.

The survey is being made by mail, with a standard questionnaire being sent to every sixth aircraft owner in the country. The questionnaire is similar to that used in previous surveys but requests additional information on radio equipment and stall warning devices installed in the aircraft.

The CAA Office of Aviation Information, which is conducting the survey in conjunction with the Division of Research, has urged that aircraft owners receiving survey cards return them as soon as possible.

Airline Mileage Figures Given

The 16 domestic trunk airlines flew 95.69 percent of their scheduled mileage in November 1948, a Civil Aeronautics Board report reveals. Of the 34.24 average available seats per mile during the month 53.76 percent were occupied by revenue passengers, as compared with 31.53 average available seats of which 57.79 percent were occupied by revenue passengers in November 1947.

The airlines flew 94.41 percent of their scheduled mileage in December 1948. Of the 33.14 average available seats per mile 55.15 percent were occupied by revenue passengers, as compared with 31.46 average available seats of which 59.70 percent were occupied by revenue passengers for December 1947.

Civil Aviation Highlights

	1949	1948
Airports recorded with CAA, March 1.	6,416	5,904
By Type:		
Commercial	2,922	2,937
Municipal	2,080	1,838
CAA intermediate	160	171
Military	395	451
All others	859	597
Civil airports by class:		
Total	6,021	5,453
Class I and under	4,000	3,663
Class II	985	868
Class III	471	426
Class IV	359	329
Class V	132	110
Class VI and over	74	57
Total U. S. civil aircraft, March 1.	94,883	97,495
Scheduled air carrier aircraft, March 1.	1,056	970
Civil aircraft production, Jan.:		
Total	160	462
2-place models	37	229
3-, 4-, and 5-place models	114	220
Over 5-place models	9	13
Certificates approved, Jan.:		
Student pilots	2,629	10,623
Private pilots	2,136	7,616
Commercial pilots	526	443
Airline transport pilots	66	91
Mechanics (original certificates)	537	857
Ground instructors (original certificates)	170	197
Flight instructor ratings	111	290
Flight navigators	12	—
Flight engineers	54	—
Flight radio operators	21	—
Instrument ratings	109	101
Control tower operators	160	138
Dispatchers	101	9
Traffic control activity, Jan.:		
Aircraft operations, CAA airport towers	1,063,275	1,086,715
Fix postings, CAA airway centers	887,463	780,050

Airport Operations

Washington National, Feb.:		
Scheduled air carrier:		
Passengers departing	41,930	31,319
Passengers arriving	39,923	30,992
Aircraft arrivals and departures	9,606	7,502
Other aircraft arrivals and departures	4,556	2,862
San Francisco Municipal, Jan.:		
Scheduled air carrier:		
Passengers departing	31,667	26,902
Passengers arriving	33,590	28,430
Aircraft arrivals and departures	5,582	6,526
Other aircraft arrivals and departures	3,620	4,515
Oakland Municipal, Jan.:		
Scheduled air carrier:		
Passengers departing	4,197	3,452
Passengers arriving	3,777	3,042
Aircraft arrivals and departures	4,016	2,731
Other aircraft arrivals and departures	16,475	16,170
Los Angeles Municipal, Jan.:		
Scheduled air carrier:		
Passengers departing	43,847	(2)
Passengers arriving	41,172	(2)
Aircraft arrivals and departures	7,494	5,331
Other aircraft arrivals and departures	5,701	6,525

¹ Airport type definitions: Commercial—Public use and public services, privately owned and operated. Municipal—Public use and public services, municipally owned and/or operated. CAA Intermediate—Public emergency use, no services, CAA operated. Military—Public restricted, military operated. All others—(a) Public emergency use only, no public services, privately owned for personal use; (b) Public emergency use only, no public services, Government-owned Forest Service, etc.

² Not available.

CAB Denies Florida Airways Application for Extension

The Civil Aeronautics Board last month denied the application of Florida Airways to extend the expiration date of its temporary certificate of public convenience and necessity approximately 10 months beyond March 28, 1949.

Florida Airways, a feeder airline operating local service in Florida, was certificated by the Board for a 3-year period on March 28, 1946, and began operations early in 1947.

The Board in its *Additional Service to Florida* case, decided in September 1948, had previously denied Florida's application for expanded service through geographic extension of the route, and also denied an extension of the expiration date of the certificate for five years.

Official Actions Civil Aeronautics Board

Regulations

SR-330----- Effective February 28, 1949

Section 43.1010 of the Civil Air Regulations provides that no aircraft shall be operated in violation of its prescribed operating limitations. The operating limitations referred to are those prescribed by requirements of the Civil Air Regulations for various civilian uses including flight instruction. Certain aircraft currently being used for flight instruction by CAA certificated flight schools are training aircraft released as surplus by our armed services. Some of these schools have contracted to give flight instruction to personnel of foreign governments whose officials desire such personnel to be given a similar course of instruction to that given United States military personnel in the same model aircraft. However, due to differences between military and civilian requirements, the military surplus aircraft used by the CAA certificated schools are, by virtue of the airworthiness requirements placed against certain intentional acrobatic maneuvers which are part of the military instruction program.

The Board has been advised that the aforementioned requirement is impeding instruction of the aviation cadets of a foreign government and has been requested to authorize use of war surplus aircraft for the training of personnel of foreign governments on a basis similar to that used by our own armed services. It is the Board's opinion that international considerations warrant the granting of such a request.

In consideration of the foregoing, the Civil Aeronautics Board hereby promulgates the following Special Civil Air Regulation: Notwithstanding the provisions of § 43.1010 of the Civil Air Regulations, military personnel of a foreign government being trained in a CAA certificated school may receive special training in maneuvers not within the approved airplane operating limitations: Provided, That

- (1) an official request for such special training has been made to the Administrator by an accredited representative of the foreign government concerned; and
- (2) the Administrator finds that such training can be done with a standard of safety equivalent to that maintained by the United States Air Force and Navy. There shall be no violation of the United States Air Force or Navy Technical Orders pertinent to the phase of the training for which approval is being given.
- (3) Such aircraft shall not be used to demonstrate compliance with any acrobatic maneuver required in a flight test for the issuance of an airman certificate or rating, against which it has been placarded.

ER-139----- Effective April 11, 1949

The purpose of this amendment is (a) to provide a more workable basis for designating the Post Office employees eligible to travel by air free of charge upon presentation of appropriate credentials and transportation requests, and (b) to make it the duty of the Postmaster General to provide for accrediting such employees through issuance of credentials, preparation of transportation request forms and promulgation of rules and regulations pertaining to travel on official business relating to the transportation of mail.

Safety Orders

S-226 orders that the Board's order serial No. SD-1236, dated August 23, 1948, suspending pilot certificate of Rudolph Gilbertson be stayed until April 1, 1949; suspends said certificate further until May 11, 1949 (Feb. 11).

S-227 revokes pilot certificate of Robert Valentine Shutter, for a period of 2 years (March 2).

S-228 suspends mechanic certificate of Victor E. Loomis, until such time as he shall have taken and passed a certain examination given by the Administrator of Civil Aeronautics in accordance with § 609 of the Act (March 3).

S-229 revokes pilot certificate of Clarence F. Cooper for piloting an aircraft in a series of dives at altitudes of approximately 50 feet above the ground over a congested residential area and piloting an aircraft when he did not have a valid medical certificate in his possession (March 16).

S-230 denies request for suspension or revocation of commercial pilot certificate of Frank M. Coplin, charged with flying an aircraft between Bear Creek and Candle, Alaska, after dark without displaying position lights (March 16).

Airman Orders

SD-1476 suspends for 4 months, student pilot certificate of Joe V. Garza, San Antonio, Tex., for carrying a passenger (Nov. 23).

SD-1477 revokes private pilot certificate of Frank Joseph Sala, for careless operation of an aircraft by colliding with a rowboat containing four persons on the Hackensack River, near Secaucus, N. J. (Nov. 9).

SD-1478 revokes temporary student pilot certificate of Lloyd R. Sims, for carrying a passenger on a flight which ended in a crash near Ensley, Ala., in which the passenger was fatally injured and he was seriously injured (Dec. 14).

SD-1479 revokes temporary private pilot certificate of Glenn N. Witt, Athens, Ala., for low flying over a congested area (Dec. 14).

SD-1480 suspends for 6 months, private pilot certificate of C. L. Satterfield, for low flying and careless operation, ending in a crash near Dalton, Ga. (Dec. 14).

SD-1481 suspends for 9 months, private pilot certificate of Kenneth Eugene Johnson, for operating an aircraft in acrobatic flight at low altitude over Miami, Fla. (Dec. 14).

SD-1482 suspends for 6 months, student pilot certificate of Farrell Otto Shull, Vale, N. C., for low flying over a residential area, ending in a collision with a tree and a crash (Dec. 14).

SD-1483 revokes pilot certificate of Edward Payson Cressler, Jr., for performing acrobatic maneuvers at low altitude over Corinth, Miss., ending in a crash in which the aircraft was destroyed and the pilot seriously injured (Dec. 14).

SD-1484 revokes student pilot certificate of James Donald Smith, for carrying a passenger and for other CAR violations (July 13).

SD-1485 suspends for 90 days, private pilot certificate of Charles Clayton Greene, for low flying over a farm house near Chambersburg, Pa. (Nov. 16).

SD-1486 suspends for 90 days, private pilot certificate of Dale W. Boyce, Norman, Okla., for low flying over a congested area of Oklahoma City (Nov. 9).

SD-1487 suspends for 15 days, commercial pilot certificate of Leonard Lawrence Joseph Sleyer, Dunmore, Pa., for piloting a seaplane when he did not have a valid seaplane rating. The aircraft capsized and sank in a lake (Nov. 2).

SD-1488 suspends for 90 days, student pilot certificate of William Leonard Green, Delmar, Del., for low flying (Nov. 24).

SD-1489 revokes production certificate held by Fahlin Manufacturing Company, Columbia, Mo. (Nov. 11).

SD-1490 revokes private pilot certificate of Wayne Dennis, Wichita, Kans., for acrobatic flight within a civil airway (Nov. 17).

SD-1491 suspends for 3 months, commercial pilot certificate of Chester Dwight Arnold, Pine Bluffs, Wyo., for operating an aircraft after the hours of darkness without displaying lights (Nov. 10).

SD-1492 suspends for 6 months, student pilot certificate of Robert Morton Olson, Tacoma, Wash., for low flying (Dec. 3).

SD-1493 dismisses complaint against H. W. Major, Boise, Idaho (Dec. 1).

SD-1494 suspends for 72 days, private pilot certificate of Billie D. Lauterbach, Liberal, Kans., for low flying (Nov. 13).

SD-1495 suspends for 60 days, private pilot certificate of Kenneth H. Ryduqsut, Oberlin, Kans., for striking a telephone wire while spotting coyotes over open wheat country (Dec. 1).

SD-1496 suspends for 30 days, private pilot certificate of W. L. McNamee, Overland Park, Kans., for low flying (Nov. 17).

SD-1497 suspends for 6 months, student pilot certificate of Teddy George Trefren, Cheyenne, Wyo., for flying outside the local area designated by his instructor (Oct. 11).

SD-1498 suspends for 6 months, student pilot certificate of Gordon Leland Pearce for careless and reckless operation, ending in a crash in which he was seriously injured (Nov. 9).

SD-1499 revokes student pilot certificate of Thomas R. Collins, for carrying a passenger (Nov. 16).

SD-1500 revokes student pilot certificate of Robert Clarence Bates, Ames, Iowa, for carrying a passenger (Nov. 30).

SD-1501 suspends for 3 months, student pilot certificate of Frank Case North, Fallurria, Tex., a former military pilot, for carrying a passenger (Nov. 27).

SD-1502 suspends for 6 months, temporary pilot certificate of Harold Bradford for low flying over Eau Claire, Wis. (Nov. 18).

SD-1503 suspends for 6 months, private certificate of Kenneth Winters, Chenoa, Ill., for low flying (Dec. 9).

SD-1504 revokes private pilot certificate of Thomas William Healy, Norfolk, Va., for low flying and performing acrobatic maneuvers with a passenger, when the occupants of the plane did not have parachutes (Dec. 10).

SD-1505 revokes private pilot certificate of Joseph Janusz, Dover, N. J., for low flying and striking a wire (Dec. 10).

SD-1506 suspends for 6 months, private pilot certificate of Chester W. Albrecht, Rochester, N. Y., for low flying (Dec. 10).

SD-1507 revokes private pilot certificate of Paul Lee Byrd, Roanoke, Va., for low flying and acrobatic flight ending in a crash (Dec. 15).

SD-1508 suspends for 6 months, student pilot certificate of Aubrey Douglas Phillips, Great Falls, Mont., for piloting an aircraft which was not in an airworthy condition and which had not been inspected within the previous 12 months (Dec. 11).

SD-1509 suspends for 6 months, private pilot certificate of Paul A. Litz, for engaging in acrobatic flight near Clearfield, Pa., when neither he nor his passenger had approved parachutes (Oct. 26).

SD-1510 revokes private pilot certificate of Raymond Frederick Hopkins, for careless and reckless operation of an aircraft he was piloting, so that the aircraft crashed in taking off from Municipal Airport, Auburn, N. Y. (Nov. 8).

SD-1511 revokes student pilot certificate of Albert Riskin, Washington, D. C., for low flying over Capitol Heights, Md. (Oct. 19).

SD-1512 suspends for 30 days, private pilot certificate of Roland Dell Colson, Ponte Vedra Beach, Fla., for careless operation of an aircraft in the vicinity of Ponte Vedra Beach, Fla., while carrying a passenger (Nov. 17).

SD-1513 suspends for 60 days, private pilot certificate of Michael Van Develde, Detroit, Mich., for low flying, resulting in a crash in which he and his passenger were injured and the aircraft was demolished (Dec. 24).

SD-1514 suspends for 60 days, private pilot certificate of Mathew J. Becker, Granite City, Ill., for low flying over a boat on the Illinois River (Dec. 24).

SD-1515 suspends for 6 months, private pilot certificate of Gene Nightengale, Tulsa, Okla., for low flying over Meadville, Ind. (Dec. 21).

SD-1516 revokes student pilot certificate of Aaron Elmer Pickett, Fairmont, Minn., for careless operation of an aircraft while carrying a passenger, resulting in a crash (Dec. 21).

SD-1517 revokes private pilot certificate of Edward Finley, Fargo, N. D., for flying at tree-top level over Sheldon, N. Dak. (Dec. 28).

SD-1518 revokes commercial pilot certificate of James O'Hearn, Lockport, Ill., for low flying at Lewis Lockport Airport, Lockport, Ill., for failing to conform to traffic patterns, for failing to report an accident and for other CAR violations (Nov. 17).

SD-1519 suspends for 60 days, private pilot certificate of Joyce Elane Howard, Decatur, Ill., for low flying over Herrick, Ill. (Dec. 21).

SD-1520 suspends for 60 days, commercial pilot certificate of Harvey Edward Johansen, Greenfield, Ohio, for low flying over Bainbridge, Ohio (Dec. 28).

SD-1521 suspends for 10 days, commercial pilot certificate of Herman Dale Inman, Chillicothe, Mo., for low flying over an open air assembly of persons while he was participating in a scheduled air show (Dec. 21).

SD-1522 suspends for 80 days, airman's certificate of W. O. Myers, Topeka, Kans. (Dec. 8).

SD-1523 suspends for 90 days, private pilot certificate of Harvey Samuel Heimpler, Wichita, Kans., for careless operation of an aircraft when somewhat under the influence of intoxicating liquor (Dec. 21).

SD-1524 dismisses proceedings against airman certificate of Andrew J. Burke, Jr., Miami, Fla., and revokes non-scheduled air

carrier operating certificate held by Burke Air Transport Company, Galveston, Tex., for certain CAR violations while operating a civil aircraft for hire as a non-scheduled air carrier (Dec. 24).

SD-1525 suspends for 60 days, student pilot certificate of George W. Ballew, Greenville, S. C., for low flying over Greenville (Dec. 11).

SD-1526 revokes student pilot certificate of William Frederick Rosser, Miami, Fla., for low flying and performing acrobatics over a Boy Scout camp (Dec. 30).

SD-1527 terminates proceedings against Elbern M. Calvert, who paid \$500 to the Treasurer of the United States in full settlement (Jan. 1).

SD-1528 revokes student pilot certificate of Waldo Mac Toombs, North Little Rock, Ark., for carrying a passenger (Dec. 23).

SD-1529 suspends for 30 days, private pilot certificate of William Oldham Mize, Jacksonville Beach, Fla., for low flying over a congested area (Dec. 30).

SD-1530 revokes private pilot certificate of John B. Davis, Fort Knox, Ky., for piloting an aircraft while he was under the influence of intoxicating liquor (Dec. 15).

SD-1531 dismisses complaint against Perry Houchens, Alton, Ill. (Dec. 22).

SD-1532 revokes student pilot certificate of Ned Richard Buchenroth, Huntsville, Ohio, for low flying (Dec. 14).

SD-1533 suspends for 4 months, student pilot certificate of Herman Clarence Ireland, Lincoln, Ill., for low flying outside the local area designated by his instructor (Dec. 29).

SD-1534 suspends for 9 months, student pilot certificate of Paul Richard Nelson, Springfield, Ill., for low flying and performing acrobatics within a civil airway (Dec. 17).

SD-1535 suspends for 6 months, commercial pilot certificate of Harry E. Jensen, Superior, Wis., for low flying (Dec. 22).

SD-1536 suspends for 9 months, private pilot certificate of Carl Lee, Jr., Chicago, Ill., for low flying (Dec. 17).

SD-1537 suspends for 6 months, private pilot certificate of Emil Locher, Peoria, Ill., for taking off from Peoria Municipal Airport, a control zone, when the weather was below the minimums required by CAR without obtaining clearance from air traffic control (Dec. 29).

SD-1538 revokes student pilot certificate of Blase Joseph Magnotti, Colp, Ill., for piloting an aircraft in a careless manner while carrying two passengers, so that the aircraft was demolished in a crash and the pilot and one passenger seriously injured (Dec. 29).

SD-1539 suspends for 6 months, private pilot certificate of Elmer Bonke, Jr., Racine, Wis., for low and acrobatic flight with a passenger, ending in a crash (Dec. 17).

SD-1540 dismisses proceedings against Laurence F. Wendt, Michigan City, Ind., filed after an accident when he attempted to land an amphibian aircraft on Lake Michigan (Dec. 21).

SD-1541 suspends for 6 months, student pilot certificate of Charles Robert Stone, Indianapolis, Ind., for low flying over a congested area outside the area designated by his instructor, ending in a crash in which the aircraft was demolished (Dec. 21).

SD-1542 suspends for 60 days, airman agency certificate of Raven Rock Flying Service, Inc., Portsmouth, Ohio, for operating a flying school at an airport in Waverly, Ohio, as an approved air agency when the airport was inadequate and unsafe (Dec. 31).

SD-1543 suspends for 60 days, commercial pilot certificate of Maxwell Homer Mullis, York, S. C., for low and acrobatic flight over Roddy Airport, Rock Hill, S. C. (Jan. 5).

SD-1544 suspends for 60 days, commercial pilot certificate of W. C. Littlefield, East Point, Ga., for low flying over a congested area (Jan. 11).

SD-1545 terminates proceedings against Everett N. Williams, Jacksonville, Fla. (Jan. 11).

SD-1546 suspends for 6 months, student pilot certificate of Elmer Wright, Jr., Jacksonville, Fla., for operating an aircraft in close proximity to another aircraft, creating a collision hazard (Jan. 11).

SD-1547 suspends for 60 days, private pilot certificate of Hoyt B. Willingham, Brownfield, Tex., for low flying and for failing to present his pilot certificate for examination when requested to do so by authorized representatives of the Administrator (Jan. 4).

SD-1548 revokes student pilot certificate of J. B. Whalen, Wink, Tex., for carrying passengers (Dec. 23).

SD-1549 suspends for 6 months, student pilot certificate of Charles Houseal Street, for failing to file an accident report and for failing to have repairs inspected by a duly authorized representative of the Administrator (Dec. 6).

SD-1550 suspends for 6 months, student pilot certificate of Andrew B. Rooks, for careless and reckless operation of an aircraft, resulting in a crash near Rocky Mount, N. C. (Dec. 9).

SD-1551 suspends for 1 year, private pilot certificate of James Cox, Ranger, Tex., for low flying above persons fishing from boats in a lake, so that he struck and broke an electric power line (Dec. 17).

SD-1552 suspends for 4 months, private pilot certificate of Joe Brandon McLean, Levelland, Tex., for low flying over Morton, Tex. (Nov. 24).

SD-1553 suspends for 8 months, private pilot certificate of James W. Howie, Anchorage, Alaska, for low flying over Fort Richardson, Alaska, and for acrobatic flight with a passenger when neither occupant of the aircraft was equipped with an approved parachute (Dec. 28).

SD-1554 revokes student pilot certificate of Garland Sylvester Leslie, Benton Harbor, Mich., for carrying a passenger (Dec. 30).

SD-1555 terminates proceedings against Roger A. Grolla, North St. Paul, Minn., whose pilot certificate was suspended for 60 days by action of Minnesota aviation officials for low flying over a congested area (Dec. 31).

SD-1556 suspends for 90 days, temporary private pilot certificate of Paul Byron Gott, Jr., Spencer, Ohio, for low flying, and for careless operation which ended in a crash (Dec. 30).

SD-1557 suspends for 5 months, commercial pilot certificate of John William Fieldblack, Morton, Wis., for piloting an aircraft contrary to air traffic control instructions and for failing to conform to the traffic patterns at General Mitchell Field, Milwaukee (Dec. 10).

SD-1558 revokes student pilot certificate of John S. Ulom, Vanland, Ill., for low flying and for leaving an aircraft unattended in a field with the motor running, which resulted in an accident (Jan. 4).

SD-1559 suspends for 3 months, private pilot certificate of William Rae Steinberg, Stone Lake, Wis., for careless operation of

an aircraft while carrying a passenger. He was flying low for the purpose of observing the fish in a lake, when the aircraft struck some power line and crashed into the lake (Jan. 18).

SD-1560 suspends for 6 months, student pilot certificate of Clifford E. Wall, Minneapolis, Minn., for low flying and doing aerobatics over a congested area (Jan. 21).

SD-1561 suspends for 6 months, student pilot certificate of John Chaille, Fort Branch, Ind., for carrying passengers. In looking for a suitable place for landing, he struck a power line and crashed, injuring himself and his two small sons, who were passengers (Jan. 19).

SD-1562 revokes private pilot certificate of Weldon E. Prime, Bristol, Vt., for low flying with a passenger, resulting in a crash (Dec. 29).

SD-1563 dismisses complaint against Joseph Dusiesko, Erie, Pa., filed following a crash, which he stated was caused solely by a mechanical difficulty (Dec. 30).

SD-1564 revokes student pilot certificate of John Doe, because he fails to meet the physical requirements for the certificate held (Jan. 7).

SD-1565 revokes student pilot certificate of Louis Reese, Westfield, N. J., for low flying and engaging in aerobatics over Crestwood Acres, Westfield, N. J. (Jan. 4).

SD-1566 revokes student pilot certificate of Frank Slason, Waterbury, Conn., for carrying a passenger and for flying outside the local area designated by his instructor (Dec. 30).

SD-1567 revokes temporary student pilot certificate of Marius S. Jalet, Norwalk, Conn., for operating an aircraft outside the local area designated by his instructor and for other CAR violations (Jan. 7).

SD-1568 revokes private pilot certificate of Harry Huxley Littlejohn, Endicott, N. Y., for low flying and for performing aerobatic maneuvers over a congested area (Dec. 28).

SD-1569 revokes student pilot certificate of John Thomas Clark, Buffalo, N. Y., for carrying a passenger and for landing an aircraft on a highway near people, who were endangered by his carelessness (Dec. 30).

SD-1570 revokes commercial pilot certificate of Robert Ludlow Hamilton, McLean, Va., for carrying a passenger while he was under the influence of intoxicating liquor and for other CAR violations (Dec. 29).

SD-1571 revokes student pilot certificate of Joseph Robert Johnson, Memphis, Tenn., for low flying over a congested area of Memphis, Tenn., with a passenger (Jan. 25).

SD-1572 suspends for 9 months, private pilot certificate of James A. Murphy, Jr., Norfolk, Va., for low flying with a passenger, ending in a crash which resulted in the death of the passenger and serious injuries to himself (Dec. 28).

SD-1573 revokes commercial pilot certificate of Donald B. Hoyt, Homestead, Fla., for operating an aircraft in such close proximity to another aircraft in the vicinity of Homestead, Fla., as to create a collision hazard (Jan. 10).

SD-1574 suspends for 4 months, commercial pilot certificate of Ernest Robert Kidder, Jr., Gainesville, Fla., for low flying above and near the University of Florida campus (Jan. 10).

SD-1575 terminates proceedings against American Air Transport, Inc. (Jan. 5).

SD-1576 suspends for 6 months, student pilot certificate of Harry Arnold Riddle, West Frankfort, Ill., for low flying (Jan. 11).

SD-1577 revokes student pilot certificate of Clifton Eugene Scribner, Louisville, Ky., for carrying a passenger (Jan. 10).

SD-1578 revokes student pilot certificate of Rex E. McDougale, Hamburg, Ark., for low flying (Jan. 11).

SD-1579 revokes student pilot certificate of Robert George Berg, Jr., Gonvick, Minn., for carrying a passenger, for doing aerobatics without parachutes, and for low flying, ending when the plane crashed near some children playing in a school yard, resulting in minor injuries to the pilot and serious injuries to the passenger (Jan. 26).

SD-1580 revokes student pilot certificate of Virgil Shannon, Van Nuys, Calif., for carrying a passenger on a flight which ended in a crash (Dec. 14).

SD-1581 suspends for 30 days, private pilot certificate of Noel D. Moore, Tulsa, Okla., for low flying over an automobile occupied by two persons (Jan. 6).

SD-1582 suspends for 6 months, private pilot certificate of Gerald Laughon Harp, for using key answer sheets in answering questions on an examination on navigation for a commercial pilot certificate rating (Nov. 5).

SD-1583 suspends for 60 days, private pilot certificate of Richard James Bradshaw, Martin, S. Dak., for low flying and doing aerobatics over an open air assembly of persons (Jan. 6).

SD-1584 suspends for 60 days, private pilot certificate of Kenneth Carol Matthews, for low flying and performing aerobatics over a congested area of Kansas City (Dec. 8).

SD-1585 suspends for 3 months, private pilot certificate of Ronald P. Hughtart, for low flying over an automobile occupied by two persons on a highway between Cajon and Palmdale, Calif. (Dec. 14).

SD-1586 revokes student pilot certificate of Albert Payne, Alhambra, Calif., for executing stalls and dives at low altitude above the Alhambra High School (Jan. 7).

SD-1587 revokes private pilot certificate of James Martin Christensen, Woods Cross, Utah, for low flying over and above a group of girls on a beach (Jan. 13).

SD-1588 suspends for 5 months, student pilot certificate of Paul Guggenheimer, Pacoima, Calif., for low flying over a congested area of La Crescenta, Calif. (Jan. 11).

SD-1589 suspends for 31 days, commercial pilot certificate of Wesley Adams Murphy, Jr., Ainsworth, Neb., for low flying and performing aerobatics over Johnston, Neb., with a passenger when the occupants of the plane did not have approved parachutes (Dec. 31).

SD-1590 suspends for 60 days, private pilot certificate of Edward G. Johnson for low flying over a congested area of Seattle, Wash. (Nov. 18).

SD-1591 revokes private pilot certificate of David E. Paulson, for low flying, ending in a crash in which the pilot and his passenger were seriously injured (Nov. 16).

SD-1592 terminates proceedings against Francis Elmer Scott, Sr., Kansas City, Mo., who voluntarily surrendered his private pilot certificate after the Administrator had charged him with low flying over a congested area of Kansas City (Jan. 4).

SD-1593 revokes student pilot certificate of Lester C. Perkins, Oakland, Calif., for carrying a passenger (Jan. 7).

SD-1594 suspends for 15 days, commercial pilot certificate of Harro Maxfrederick Wild for having in his possession questions and answers which he used in answering questions on an examination for an instrument rating (Jan. 7).

SD-1595 revokes private pilot certificate of Boyd Barrett, for low flying and performing aerobatics over Gastonia, N. C., while carrying a passenger who did not have a parachute (Dec. 8).

SD-1596 revokes private pilot certificate of Vernon E. Testerman, for low flying and performing aerobatics with a passenger who did not have an approved parachute (Nov. 17).

SD-1597 revokes private pilot certificate of Albert Joseph Nikolay, Los Angeles, Calif., for landing an aircraft at night without lights, for piloting an aircraft which had not received an annual inspection within the preceding 12 months, and for other CAR violations (Jan. 5).

SD-1598 suspends for 6 months, private pilot certificate of Chris Stergion, for doing aerobatics with a passenger when neither had parachutes and for doing aerobatics over an open air assembly of persons (Nov. 18).

SD-1599 suspends for 30 days, private pilot certificate of Cornelius Scholl, for piloting an aircraft in the vicinity of an airport without conforming to the traffic pattern (Nov. 19).

SD-1600 terminates proceedings against Lloyd H. Reed, Fort Worth, Tex. (Dec. 16).

SD-1601 suspends for 60 days, commercial pilot certificate of George D. Mace, Jr., for piloting an aircraft before major repairs had been approved (Jan. 11).

SD-1602 suspends for 6 months, private pilot certificate of William D. Morrison, for low flying and doing aerobatics with a passenger over an open air assembly of persons on a beach at Venice, Calif. (Nov. 4).

SD-1603 suspends for 30 days, private pilot certificate of Gerald B. May, Garland, Tex., for low flying over a crowd at a ball game and over a farm home (Dec. 23).

SD-1604 suspends for 30 days, commercial pilot certificate of Muriel L. Woosley, for taking off from Will Rogers Field, Oklahoma City, contrary to instructions from the control tower (Nov. 16).

SD-1605 suspends for 120 days, private pilot certificate of Henry Myatt Dozier, for careless operation of an aircraft by landing on a beach at Port Aransas, Tex., near a group of persons picnicking, so that the right wing tip struck a child (Oct. 19).

SD-1606 dismisses proceedings against Royal A. Woodchick, who paid a civil penalty of \$100 (Nov. 17).

SD-1607 suspends for 60 days, private pilot certificate of Blake Chilton, Jr., Dallas, Tex., for low flying over a congested area (Jan. 26).

SD-1608 revokes student pilot certificate of Joseph Stanford Morgan, Dahlart, Tex., for carrying a passenger (Jan. 26).

SD-1609 terminates proceedings against Charles Joseph Kenny, North Kansas City, Mo., whose private pilot certificate was surrendered for 30 days after he had been charged with low flying over Richmond, Mo. (Jan. 20).

SD-1610 suspends for 6 months, private pilot certificate of Loren Henry McNeely, Pittsburgh, Kans., for low flying over the home of a friend, resulting in a crash (Jan. 12).

SD-1611 revokes private pilot certificate of Dorren Dorris Thrash, also known as Darren D. Thrash, Englewood, Colo., for permitting a student pilot to operate an aircraft, which crashed, fatally injuring the student (Jan. 11).

SD-1612 suspends for 60 days, student pilot certificate of Maurice B. Maness, for leaving the flight area designated by his instructor (Dec. 7).

SD-1613 revokes student pilot certificate of Richard Lee Laroche, Methuen, Mass., for low flying in a manner leading to a crash (Jan. 18).

SD-1614 suspends for 9 months, commercial pilot certificate of Gerald E. Cooke, Joplin, Mo., for low flying over a public highway (Dec. 21).

SD-1615 suspends for 15 days, private pilot certificate of Dale Young, Bloomington, Ind., for operating after sunset an aircraft certified for contact day flight only (Jan. 27).

SD-1616 suspends for 60 days, student pilot certificate of Lawrence D. Swart, Chicago, Ill., for aerobatic flight below an altitude of 1,500 feet above a congested area of Chicago (Feb. 1).

SD-1617 suspends for 60 days, student pilot certificate of Richard L. Setzer, Gladwin, Mich., for operating an aircraft with another student as passenger (Jan. 27).

SD-1618 suspends for 4 months, private pilot certificate of Dale Vernon Miller, Sullivan, Ill., for low flying ending in a crash (Feb. 1).

SD-1619 suspends for 3 months, private pilot certificate of Frank G. Krupa, Richmond, Ind., for low flying over a farm house, ending in a crash, and for not having a valid medical certificate in his possession (Jan. 27).

SD-1620 revokes private pilot certificate of Edgar H. Gentry, Osborn, Ohio, for low and aerobatic flight over Portsmouth, Ohio (Jan. 28).

SD-1621 terminates proceedings against Dwight Brooks, San Diego, Calif., whose student pilot certificate has expired (Feb. 1).

SD-1622 suspends for 6 months, private pilot certificate of Lloyd D. Shriver, Jefferson, Iowa, for various CAR violations when he took off from Heart of America Airport, Kansas City, in instrument weather, with a passenger, became lost, and landed on a highway near Grandview, Mo. (Jan. 21).

SD-1623 revokes private pilot certificate of Robert E. McGross, Mossrock, Wash., for low flying, ending in a crash in which he and his brother were injured (Jan. 19).

SD-1624 revokes student pilot certificate of John (Smoky) Johnson, McIntosh, S. Dak., for low flying and operating an aircraft while under the influence of intoxicating liquor (Jan. 21).

SD-1625 revokes commercial pilot certificate of Glenn Wayne Simmons, Aztec, N. Mex., for low flying and performing aerobatics which ended in a crash in which he and his passenger were seriously injured (Dec. 1).

SD-1626 suspends for 6 months, private pilot certificate of Lemuel Scott Blount, San Antonio, Tex., for performing aerobatic maneuvers at low altitude over a congested area and for other CAR violations (Dec. 28).

SD-1627 revokes private pilot certificate of William R. Hinton, Pottstown, Pa., for flying at tree-top level over a congested area (Jan. 27).

SD-1628 revokes mechanic certificate of Howard D. Lesh, New Castle, Pa. (Jan. 25).

SD-1629 revokes private pilot certificate of Carl Marshall Rustine, Stroudsburg, Pa., for doing aerobatics at low altitude, ending in a crash in which he and his passenger were injured (Jan. 27).

SD-1630 suspends for 30 days, private pilot certificate of Benton F. Thomas, for piloting an aircraft in a careless manner (Feb. 5).

SD-1631 suspends for 4 months, student pilot certificate of Malvin C. Hamilton, Altha, Fla., for low flying over a group of people on a bathing beach, ending in a crash when the plane struck a power line (Feb. 8).

SD-1632 revokes student pilot certificate of Franklin J. Hill,

for low and aerobatic flight with a passenger over Stengel Field, Gainesville, Fla. (Jan. 12).

SD-1633 revokes student pilot certificate of Douglas Ray Phelps, Johnson City, Tex., for carrying a passenger on a flight which ended in a crash (Jan. 27).

SD-1634 suspends for 90 days, private pilot certificate of William Hillman Holmes, Eugene, Oreg., for doing aerobatics at low altitude with a passenger and performing a steep glide which ended in a crash (Jan. 16).

SD-1635 revokes student pilot certificate of Charles Sears, Hartford, Conn., for carrying a passenger, failing to observe other traffic, and for operating an aircraft while he was under the influence of intoxicating liquor (Jan. 29).

SD-1636 revokes student pilot certificate of Glenn A. Smith, Constantia, N. Y., for low flying over a congested area, ending in a crash when the aircraft struck a tree (Feb. 1).

SD-1637 revokes private pilot certificate of Thomas Meade Williams for not having a valid pilot certificate in his possession, for failing to conform to the flow of traffic at Williamsport Airport, Williamsport, Pa., and for piloting an aircraft while he was under the influence of intoxicating liquor (Feb. 3).

SD-1638 revokes student pilot certificate of Holt Earley East, Altavista, Va., for leaving the local area designated by his instructor and performing aerobatics over the home of his parents, so that the aircraft struck a tree and crashed (Feb. 1).

SD-1639 revokes student pilot certificate of William Melvin Turner, Easton, Maine, for leaving the local area designated by his instructor and crashing in an attempt to land on a farm (Feb. 3).

SD-1640 revokes private pilot certificate of William Grundza, Fair Oaks, Pa., for low flying and doing aerobatics over a congested area, resulting in a crash when he buzzed a school and children at low altitude (Feb. 8).

SD-1641 revokes private pilot certificate of Joseph C. Finch, Maine, N. Y., for doing aerobatics at low altitude while carrying a passenger, when the occupants of the plane did not have parachutes, and for crashing while buzzing a farm home, causing injuries to both occupants of the plane (Feb. 8).

SD-1642 revokes student pilot certificate of Charles A. Bawtenheimer, Elizabeth City, N. C., for leaving the local flying area designated by his instructor, for carrying a passenger, and for low flying, ending in a crash in which the passenger was injured (Feb. 8).

SD-1643 suspends for 6 months, private pilot certificate of Phineas Platt, South Plainfield, N. J., for low flying over a bathing beach and above a group of swimmers on a raft (Feb. 8).

SD-1644 revokes student pilot certificate of James Thomas Buck, Ardentown, Del., for carrying a passenger on a flight which ended in a crash in which he and his passenger were injured (Feb. 8).

SD-1645 revokes student pilot certificate of Harry Leslie Smith, Norway, Maine, for carrying a passenger on a flight which ended in a crash in which the passenger was injured (Feb. 8).

SD-1646 revokes non-scheduled air carrier operating certificate of Stephen Pivarsky, Bryn Mawr, Pa., for failing to maintain an operating base as specified in his application for a certificate, and for other CAR violations (Feb. 8).

Airline Orders

E-2433 approves agreements between Inland Air Lines and Capital Airlines relating to services and facilities at Minneapolis and St. Paul, Minn. (Feb. 2).

E-2434 dismisses joint application of J. Wesley Hickman, Pioneer Air Lines and Southern Aircraft Company for approval of interlocking relationships (Feb. 2).

E-2435 authorizes change in service pattern for Challenger Airlines over its route No. 74 (Feb. 4).

E-2436 dismisses complaint of United Air Lines in the matter of certain sky coach fares proposed by TWA (Feb. 4).

E-2437 dismisses complaint of Standard Air Lines in the matter of certain sky-coach fares proposed by TWA (Feb. 4).

E-2438 approves interlocking relationship existing as a result of the holding of certain positions by Theodore N. Law in Mid-Continent Air Lines, Alaska Airlines, and Tualacore, Inc. (Feb. 7).

E-2439 denies petition of American Overseas for leave to intervene in the matter of the complaint of TWA versus Seaboard and Western Airlines (Feb. 7).

E-2440 orders Wisconsin Central to show cause why the Board should not fix certain temporary mail rates pending the establishment of the final rate (Feb. 8).

E-2441 approves agreement between Monarch and Continental relating to service at Albuquerque (Feb. 8).

E-2442 approves interlocking relationships existing as a result of the holding of certain positions by J. R. Marra, W. J. McGreevy, W. M. Smith, and H. P. Dunlap in the Railway Express Agency (Feb. 8).

E-2443 approves agreement between Northeast Airlines and British Overseas Airways relating to exchange orders (Feb. 8).

E-2444 approves agreement between Capital Airlines and KLM (Royal Dutch Air Lines) relating to interline traffic (Feb. 8).

E-2445 approves agreement between United and Pan American relating to service at Logan Field, Boston, Mass. (Feb. 8).

E-2446 issues a temporary certificate to Southern Airways for route No. 98 in the Southeastern States case (Feb. 8).

E-2447 dismisses petitions of Florida Airways and the Gadsden Chamber of Commerce for the institution of certain proceedings concerning the issuance of a temporary certificate to Southern Airways (Feb. 8).

E-2448 orders the matter of an agreement between various members of the Air Traffic Conference of America, relating to military travel, be made a matter of public record (Feb. 8).

E-2449 approves interlocking relationships existing as a result of the holding of certain positions by Richard J. Reynolds in Delta Air Lines and American Mail Line (Feb. 8).

E-2450 institutes a proceeding to determine whether the temporary certificate for route No. 79 held by Empire Air Lines should be extended to December 31, 1950 (Feb. 8).

E-2451 consolidates application of Massachusetts Airlines (Docket No. 3604) into the Service in New England States case; denies request of Yankee Skylines for consolidation in same and denies petition of Colonial Airlines for leave to intervene (Feb. 10).

E-2452 approves, subject to certain conditions, most of the agreements embodied in the resolutions of the second meeting of International Air Transport Association, Traffic Conference No. 1 (Feb. 10).

E-2453 approves, subject to certain conditions, most of the agreements embodied in the resolutions of the fourth meeting of International Air Transport Association, Traffic Conference No. 2 (Feb. 10).

(Continued on page 46)

Scheduled Air Carrier Operations

(Source: CAB Form 41)

International and Overseas: January-December 1948, 1947

Operator	Revenue miles		Revenue passengers		Revenue passenger-miles (000)		Passenger seat-miles (000)		Revenue passenger load factor (per cent)	
	January-December		January-December		January-December		January-December		January-December	
	1948	1947	1948	1947	1948	1947	1948	1947	1948	1947
American Airlines.....	2,352,683	2,651,881	69,014	73,763	49,973	58,548	92,335	99,455	54.12	58.87
American Overseas Airlines.....	7,410,523	7,342,881	75,617	59,605	172,604	168,360	279,778	248,111	61.69	67.86
Braniff Airways.....	599,450	-	4,026	-	6,912	-	29,209	-	23.66	-
Chicago & Southern Air Lines.....	806,480	471,201	15,472	9,765	13,196	6,698	38,854	19,647	33.96	34.09
Colonial Airlines.....	695,631	258,304	16,537	4,248	13,016	3,335	30,380	9,936	42.84	33.56
Eastern Air Lines.....	753,116	727,917	16,061	16,397	16,710	16,469	41,163	37,425	40.59	44.01
National Airlines.....	405,044	418,042	27,012	32,006	8,296	9,531	20,615	19,142	40.24	49.79
Northwest Airlines.....	4,534,365	2,741,765	28,947	19,644	61,224	35,668	105,687	81,782	57.93	43.61
Pan American Airways:										
Atlantic Division.....	12,918,106	11,821,168	115,416	122,309	283,504	303,012	423,259	421,468	66.98	71.89
Latin American Division.....	29,090,062	30,510,524	682,069	716,909	546,806	597,764	1,068,615	1,095,815	51.17	54.55
Alaska Operations.....	2,520,298	2,378,709	35,142	36,682	35,107	37,623	77,516	74,714	45.29	50.36
Pacific Operations.....	15,658,363	10,970,812	88,204	67,957	268,923	204,194	382,984	295,247	70.22	69.16
Pan American-Grace Airways.....	5,651,360	8,809,470	92,297	111,616	103,663	106,511	179,617	180,615	57.71	58.97
Transcontinental & Western Air.....	12,641,264	8,809,470	81,943	67,461	253,437	220,418	443,622	289,626	57.13	76.10
United Air Lines.....	1,879,200	1,173,635	22,752	16,877	54,882	40,505	76,446	47,257	71.79	85.71
Uruba, Medellin & Central Airways.....	137,496	227,679	2,240	4,473	744	1,409	2,239	4,095	33.23	34.41
Total.....	98,053,441	86,481,082	1,372,749	1,359,712	1,888,997	1,810,045	3,292,319	2,924,335	57.38	61.90
Index (1947=100).....	113.38	100.00	100.96	100.00	104.36	100.00	112.58	100.00	92.70	100.00

Ton-Miles Flown

Operator	Express		Freight		U. S. Mail		International parcel post	
	January-December		January-December		January-December		January-December	
	1948	1947	1948	1947	1948	1947	1948	1947
American Airlines.....	0	0	1,443,402	1,541,955	89,206	96,206	0	-
American Overseas Airlines.....	2,714,269	1,925,720	0	0	1,469,868	1,548,148	189,604	-
Braniff Airways.....	0	-	42,401	-	6,431	-	0	-
Chicago & Southern Air Lines.....	0	0	156,319	63,982	5,129	1,447	160	-
Colonial Airlines.....	0	4,644	65,315	0	9,264	3,397	817	-
Eastern Air Lines.....	0	0	407,155	145,319	44,974	30,382	224	-
National Airlines.....	206,346	106,143	0	0	11,074	6,980	0	-
Northwest Airlines.....	75,624	69,181	1,897,076	331,922	1,631,261	573,470	0	-
Pan American Airways:								
Atlantic Division.....	5,734,236	3,784,595	0	0	2,647,049	1,770,936	186,723	-
Latin American Division.....	18,380,551	16,394,407	0	0	2,775,870	2,598,659	0	-
Alaska Operations.....	3,353,723	515,362	0	0	442,232	368,917	0	-
Pacific Operations.....	4,690,746	3,161,215	0	0	4,087,369	2,779,053	0	-
Pan American-Grace Airways.....	1,542,338	1,651,175	176,799	22,126	208,483	227,260	0	-
Transcontinental & Western Air.....	4,262,679	3,045,490	0	0	2,466,149	2,438,046	282,665	-
United Air Lines.....	146,298	76,868	0	0	545,099	201,304	0	-
Uruba, Medellin & Central Airways.....	41,053	56,309	0	0	0	0	0	-
Total.....	41,147,863	30,791,109	4,188,467	2,105,304	16,439,458	12,644,205	660,193	-
Index (1947=100).....	133.64	100.00	198.95	100.00	130.02	100.00	-	-

International and Overseas: December 1948

Operator	Revenue miles	Revenue passengers	Revenue passenger-miles (000)	Passenger seat-miles (000)	Revenue passenger load factor (per cent)	Ton-Miles Flown			
						Express	Freight	U. S. Mail	International parcel post
American Airlines.....	204,784	6,250	4,889	8,776	55.71	0	128,937	11,365	0
American Overseas Airlines.....	587,134	6,332	13,798	21,603	63.87	318,503	0	211,293	50,254
Braniff Airways.....	91,719	778	1,355	4,314	31.41	0	3,342	1,298	0
Chicago & Southern Air Lines.....	114,556	1,903	1,952	5,693	34.29	0	27,938	1,056	113
Colonial Airlines.....	57,137	725	587	2,514	23.35	0	5,933	1,453	271
Eastern Air Lines.....	64,480	1,398	1,454	3,204	45.38	0	32,771	8,003	103
National Airlines.....	37,481	2,890	902	2,073	43.51	22,176	0	831	0
Northwest Airlines.....	578,172	3,226	8,245	12,763	64.60	18,221	370,025	277,501	0
Pan American Airways:									
Atlantic Division.....	1,063,892	7,863	20,825	29,294	71.09	666,416	0	331,250	40,862
Latin American Division.....	2,628,811	60,637	49,503	94,370	52.46	2,028,908	0	433,134	0
Alaska Operations.....	196,553	2,559	2,844	4,936	57.62	297,339	0	74,217	0
Pacific Operations.....	1,513,088	7,694	24,172	34,138	70.81	590,360	0	618,813	0
Pan American-Grace Airways.....	472,534	7,338	9,179	15,960	57.51	139,722	42,254	17,960	0
Transcontinental & Western Air.....	1,049,103	6,669	21,041	36,866	57.07	576,369	0	310,760	44,069
United Air Lines.....	170,400	2,122	5,093	7,186	70.87	20,123	0	134,536	0
Uruba, Medellin & Central Airways.....	8,632	204	68	147	46.26	3,232	0	0	0
Total.....	8,838,476	118,588	165,907	283,837	58.45	4,681,369	611,200	2,433,470	135,672

CAB Accident Reports

Helicopter Improperly Loaded.—A helicopter which crashed on take-off from the roof of the Post Office Terminal Annex Building, Los Angeles, Calif., January 21, 1949, was improperly loaded, according to a preliminary statement of facts by the Bureau of Safety Investigation of the CAB. The pilot, the only occupant aboard, was fatally injured and the aircraft was destroyed.

In accordance with the company's operating procedure, Pilot Harry A. Slemmons remained in the cockpit and kept the engine running during the unloading and loading operation on the roof of the building. Nine sacks of mail were inadvertently loaded in the forward compartment, making the total load 994 pounds. This was within the permissible gross take-off weight for the aircraft, but it was located too far forward.

On take-off, the aircraft moved forward 6 to 8 feet in a southerly direction, then rose about 6 feet above the roof. As the airplane approached the edge of the building, it assumed an abnormal nose down flight attitude and started a steep right turn. As a result, one of the rotor blades struck the roof and the aircraft collided with a three-foot parapet around the edge of the roof, rolled over the parapet and fell 62 feet to the street below.

No indication of powerplant failure or structural failure was disclosed by the Bureau's investigation.

Alaskan Crash Cause Unknown.—Sufficient evidence was not found to determine the probable cause of the accident fatal to 13 passengers and 5 crew members when Pan American's Flight 923 crashed on Tamgas Mountain, Annette Island, Alaska, October 26, 1947, the CAB reported.

The flight was en route from Seattle to Juneau, with an intermediate stop scheduled at Annette Island, with Captain Alf N. Monsen as pilot and First Officer Laurence A. Foster as co-pilot.

The flight arrived over Annette Island after a routine trip and cleared for a normal instrument let-down and approach to the field. Five minutes after the flight reported over the range station, it informed Annette Radio that it was proceeding to Juneau because of extreme turbulence. This was the first indication that the flight was encountering any difficulty in accomplishing a normal letdown and approach to the airport.

In response, Annette Radio asked the flight to report its altitude, but there was no reply. After repeated calls to the flight, Annette Radio issued an alert but adverse weather conditions retarded the search to such an extent that the wreckage was not located until 5 days later. It was found that the airplane had crashed on the north slope of Tamgas Mountain, approximately 8 miles east of Annette Island Airport and 8 miles east of the south course of the Annette radio range.

The aircraft struck the north side of the mountain at an elevation of approximately 3,400 feet, 196 feet below the summit. The aircraft was on a true heading of 145 degrees and in a 20 degree climbing attitude at time of impact.

"There are several possible explanations for this accident," the Civil Aeronautics Board's accident report stated. "Severe turbulence may have caused a loss of control of the airplane. There may have been severe icing which resulted in a loss of control. There are other possible theories; but it remains impossible to explain why the flight was unable to stay on the proper side of the radio range; and why it was flying a heading of 145 degrees. Outside of the fact that severe turbulence and icing conditions existed over Annette through which the flight had to

Scheduled Air Carrier Operations

(Continued from page 44)

Domestic: January 1949

Operator	Revenue miles	Revenue passengers	Revenue passenger-miles (000)	Passenger seat-miles (000)	Revenue passenger load factor (percent)	Ton-Miles Flown		
						Express	Freight	U. S. Mail
Trunk Lines								
American Airlines	3,949,508	183,264	98,834	161,336	61.26	431,338	1,808,445	774,917
Braniff Airways	838,273	34,764	12,006	27,201	44.14	61,189	67,606	87,144
Capital Airlines	1,374,524	62,946	18,507	44,910	41.21	140,776	406,002	93,045
Chicago & Southern Air Lines	518,509	17,216	6,177	13,747	44.93	34,544	32,509	42,944
Colonial Airlines	245,525	10,078	2,754	5,156	53.41	3,330	4,755	7,290
Continental Air Lines	423,634	9,543	3,549	10,725	33.99	6,704	19,754	16,381
Delta Air Lines	978,606	35,564	16,012	29,158	54.91	54,087	115,749	76,073
Eastern Air Lines	4,206,532	150,990	78,406	137,414	57.06	320,397	630,835	434,441
Inland Air Lines	171,182	5,769	1,886	3,398	55.50	5,409	7,204	10,408
Mid-Continent Airlines	563,336	18,354	5,585	11,808	47.30	10,661	16,242	22,493
National Airlines	744,302	24,541	15,122	31,224	48.43	27,135	68,200	48,159
Northeast Airlines	247,943	16,917	3,237	7,467	43.35	7,236	11,160	7,693
Northwest Airlines	1,225,708	34,188	17,793	44,146	40.30	132,601	249,122	180,624
Transcontinental & Western Air	3,565,358	74,213	55,224	110,627	49.92	386,194	753,109	684,045
United Air Lines	3,593,521	125,172	75,751	127,306	59.50	524,744	1,468,358	768,483
Western Air Lines	492,901	17,387	7,369	16,319	45.16	23,110	30,696	37,602
Trunk total	23,141,362	820,906	418,212	781,942	53.43	2,169,455	5,689,746	3,291,742
Feeder Lines								
All American Airways	126,501	0	0	0	-	1,614	0	3,398
Challenger Airlines	107,267	1,314	335	2,145	15.62	2,560	3,327	3,230
Empire Air Lines	83,275	1,853	416	1,749	23.79	710	0	1,508
Florida Airways	68,325	1,043	143	551	25.95	209	0	612
Los Angeles Airways	28,419	0	0	0	-	0	0	3,320
Monarch Air Lines	122,827	1,397	371	2,211	16.78	972	2,567	1,753
Piedmont Aviation	182,210	3,477	801	3,827	20.93	1,857	1,283	2,337
Pioneer Air Lines	254,127	5,153	1,381	6,148	22.46	1,615	2,917	11,053
Robinson Airlines	55,963	2,053	306	1,175	26.04	0	1,311	1,009
Southwest Airways	202,470	6,813	1,294	4,252	30.43	2,305	6,731	4,138
Trans-Texas Airways	158,005	1,833	443	3,318	13.35	211	300	4,774
West Coast Airlines	94,978	3,501	442	1,995	22.16	598	0	685
Wisconsin-Central Airlines	82,492	624	90	698	12.89	907	0	885
Feeder total	1,566,859	29,061	6,022	28,069	21.45	13,558	18,436	38,702
Territorial Lines								
Caribbean-Atlantic Airlines	52,391	7,231	524	1,290	40.62	0	1,943	721
Hawaiian Airlines	243,763	26,222	3,761	5,507	68.29	10,375	33,936	3,878
Territorial total	296,154	33,453	4,285	6,797	63.04	10,375	35,879	4,599
Grand total	25,004,375	883,420	428,519	816,808	52.41	2,193,388	5,744,061	3,335,043

descend, there is no real evidence to support any particular theory for the cause of this accident."

Fatigue Caused Plate Failure.—The Board determined that the probable cause of an accident near Somerset, Pa., March 20, 1948, in which a privately owned plane was destroyed and the occupants killed, was the failure from fatigue of the steel wrap-around plate of the steel attachment lower fitting at the rear spar of the right wing, causing the separation in flight of the right-wing outer panel from the center panel.

The plane was en route from White Plains, N. Y., to St. Louis. The accident occurred in a mountainous, wooded area. Position of the wreckage indicated that the aircraft had struck the ground while in an inverted position.

Herman F. Burlingame III, the pilot, his wife, their infant daughter, another passenger, George H. Armata, and four other occupants, were killed.

Although most of the wreckage was grouped within a radius of 100 feet, the outer right-wing panel was discovered 210 feet away. Investigation of the locality of the accident for any marks, either on the terrain or trees, revealed nothing to indicate contact by the aircraft previous to its final impact. The concentration of nearly all of the wreckage in one spot showed that the aircraft struck the ground after a steep dive, rather than following normal descent, or while in normal flight. There was no evidence of loss of control by the pilot prior to the separation of the wing panel from the aircraft. Condition of the propeller blades indicated that the engine was developing substantial power at the time of impact, so that descent was not caused by powerplant failure.

Civil Aircraft Shipments

Decline to Postwar Low

Airframe weight of civil aircraft shipped during January dropped to a new postwar low of 280,700 pounds. The previous low occurred in January a year ago, when 460,500 pounds of civil airframes were shipped.

January civil shipments totaled 160, compared to 235 in December and 462 in January a year ago. Nine transports were included in January shipments, 26 in December, and 13 in January a year ago.

Shipments of civil aircraft engines declined to 266 in January, from 310 in December. Total horsepower of civil engines shipped in January was 112,600 compared to 125,800 in December.

January civil aircraft shipments were as follows:

Civil Aircraft Shipments January 1949—December 1948

	Number of Units		Airframe Weight (000)	
	January 1949	December 1948	January 1949	December 1948
Total	160	235	280.7	588.8
By Type:				
Personal	151	209	136.1	178.2
Transport	9	26	144.6	410.6
By Number of Places:				
2-place	37	57	20.6	33.3
3- to 5-place	114	152	115.5	144.9
Over 5-place	9	26	144.6	410.6

(Continued from page 43)

E-2544 approves, subject to certain conditions, most of the agreements embodied in the resolutions of the third meeting of International Air Transport Association, Traffic Conference No. 3 (Feb. 10).

E-2455 approves, subject to certain conditions, most of the agreements embodied in the resolutions of the joint meetings of the International Air Transport Association (Feb. 10).

E-2456 authorizes change in service pattern for Florida Airways for segment 1 of route No. 75 (Feb. 10).

E-2457 opinion and order denies motion of Nats Air Transportation to dismiss as much of the Board's order to show cause, No. E-1874, dated August 17, 1948, as charges them with violating § 401(a) of the Act (Feb. 10).

E-2458 grants certain parties leave to intervene in the matter of the joint application of Delta and American for approval of an agreement relating to interchange of equipment (Feb. 11).

E-2459 grants the Postmaster General and Parks Air Lines leave to intervene in the matter of the applications of the city of Beloit, Wis., the city of Janesville, Wis., and Rock County Airport Committee for air service to Beloit and Janesville, Wis. (Feb. 11).

E-2460 amends order No. 3926, as amended, so as to permit TWA to continue to serve Madrid, Spain, as an intermediate point between authorized points in Portugal and Algeria until December 31, 1949 (Feb. 11).

E-2461 approves agreement between Chicago and Southern Air Lines and Braniff relating to aircraft servicing and maintenance (Feb. 11).

E-2462 grants the Chamber of Commerce of the city of Pensacola, Fla., and the Greater Miami Traffic Association, Miami, Fla., leave to intervene in the Florida Trunkline Service case (Feb. 11).

E-2463 orders investigation of, and suspends for 90 days, certain tariffs proposed by Continental Air Lines relating to one-way adult and children's fares for the transportation of persons between Kansas City and Denver (Feb. 14).

E-2464 approves agreement between Chicago and Southern Air Lines and Cia. de Transporte Republica relating to agency matters (Feb. 14).

E-2465 approves agreement between United Air Lines and Peruvian International Airways relating to interline cargo (Feb. 14).

E-2466 approves agreement between Capital and Eastern relating to furnishing of service (Feb. 14).

E-2467 approves, subject to certain conditions, most of the agreements embodied in the second meeting of International Air Transport Association Traffic Conference No. 1 (Feb. 14).

E-2468 approves, subject to certain conditions, most of the agreements embodied in the fourth meeting of IATA Traffic Conference No. 2 (Feb. 14).

E-2469 approves, subject to certain conditions, most of the agreements embodied in the third meeting of IATA Traffic Conference No. 3 (Feb. 14).

E-2470 approves, subject to certain conditions, most of the agreements embodied in the joint meetings of IATA Traffic Conferences Nos. 1, 2, and 3 (Feb. 14).

E-2471 terminates suspension of letters of registration issued to Atlantic, Gulf, and Midland Corporation (suspension order serial No. E-2281) (Feb. 16).

E-2472 grants United leave to intervene in the matter of the applications of the cities of Beloit and Janesville, Wis., and Rock County Airport Committee for air service to Beloit and Janesville (Feb. 16).

E-2473 denies petition of American Air Transport and Flight School for clarification of procedural steps and further stay of the Board's enforcement proceeding in the matter of the carrier's non-certificated operations (Feb. 16).

E-2474 orders National Airlines to show cause why the Board should not amend order serial No. E-2285 in order to fix the temporary mail rate over its entire system (Feb. 21).

E-2475 orders Northwest Airlines to show cause why the Board should not amend order serial No. E-2344 in order to fix the temporary mail rates over its routes within the continental United States and terminal points in Canada (Feb. 21).

E-2476 orders Northeast Airlines to show cause why the Board should not amend order serial No. E-2188 in order to fix the temporary mail rate over its entire system (Feb. 21).

E-2477 orders Challenger Airlines to show cause why the Board should not amend order serial No. E-560 in order to fix the temporary mail rate over its entire system (Feb. 21).

E-2478 amends order serial No. E-375, dated March 18, 1947, in the matter of the investigation of the routes and operations of Northeast Airlines so as to institute a comprehensive survey through public hearings of the relationship of Northeast's routes to an overall domestic air transportation pattern (Feb. 21).

E-2479 amends order serial No. E-485, dated April 29, 1947, in the matter of the investigation of the routes and operations of Western Air Lines so as to institute a comprehensive survey through public hearings of the relationship of Western's routes to an overall domestic air transportation pattern (Feb. 21).

E-2480 institutes a proceeding to determine whether public convenience and necessity require elimination of certain uneconomic competitive service between Chicago, Ill., and Washington, D. C., and the establishment of through air transportation between Washington, D. C., and points west of Chicago by means of interchange arrangements (Feb. 21).

E-2481 institutes a proceeding to determine whether public convenience and necessity require elimination or suspension of certain uneconomic competitive service between Minneapolis-St. Paul, Minn., and Washington, D. C., and between Detroit, Mich., and Washington, D. C., and the establishment of certain through air transportation in lieu thereof by means of interchange arrangements (Feb. 21).

E-2482 institutes a proceeding to determine whether public convenience and necessity require elimination or suspension of certain uneconomic competitive service between Detroit, Mich., and New York, N. Y.-Newark, N. J., and the establishment of certain through air transportation in lieu thereof by means of interchange arrangements (Feb. 21).

E-2483 institutes an investigation to determine the reasons for the differences in mail pay requirements among American, Eastern, TWA, and United, and to explore remedial actions necessary to eliminate or decrease dependence upon the Government for "need" payments (Feb. 21).

E-2484 orders American, TWA, and United to show cause why the Board should not amend the temporary mail rates over their respective routes between the United States and terminal points in Canada, as set forth in an attached statement (Feb. 21).

E-2485 institutes an investigation relative to the need for additional joint use of facilities by the certificated trunk line air carriers (Feb. 21).

E-2486 institutes an investigation in the matter of the rates and charges for the transportation of freight by air by certificated and non-certificated air carriers, in the Class Rate Investigation (Feb. 21).

E-2487 institutes an investigation in the matter of the cost of transporting mail by the 16 trunk-line carriers over their domestic systems (Feb. 21).

E-2488 orders a public hearing before an examiner of the Board in the matter of the application of American Airlines for an order authorizing temporary suspension of service at Abilene and Big Spring, Tex.; assigns application Docket No. 3669 (Feb. 17).

E-2489 grants the Norfolk Association of Commerce, the Norfolk Port Authority, and the Division of Ports, Department of Conservation and Development, Commonwealth of Virginia, leave to intervene in the Additional Service to Puerto Rico case (Feb. 17).

E-2490 approves agreement between Pan American and Cia. Panama de Aviacion relating to purchasing agency and shipping services (Feb. 17).

E-2491 orders Mid-Continent to show cause why the Board should not make final the rates set forth in an attached statement for the transportation of mail over its entire system; consolidates the proceeding into one Docket No. 3048 (Feb. 17).

E-2492 orders West Coast Airlines to show cause why the Board should not make final the rates set forth in an attached statement for the transportation of mail over its entire system (Feb. 17).

E-2493 denies petition of National Airlines for an order instituting an investigation to determine whether through service is required between northeastern United States cities and the Caribbean area and South America; and that a decision in Docket No. 1803 be deferred until completion of the proposed investigation (Feb. 17).

E-2494 denies motion of Florida Airways requesting that the Board reconsider and vacate its order serial No. E-2339, issued December 31, 1948, insofar as it granted Eastern leave to intervene in the matter of Florida's application for renewal and extension of its temporary certificate for route No. 75 (Feb. 18).

E-2495 orders investigation of, and suspends from February 19 to May 15, inclusive, regulations and tariffs proposed by Mid-Continent and TWA in the matter of round-trip excursion fares (Feb. 18).

E-2496 order and opinion issues a temporary certificate to Trans-Pacific Airlines for intraterritorial service in Hawaii; defers decision upon the application of Trans-Air Hawaii pending receipt of Form 41 reports covering 6 months' operations with C-46 equipment; approved by the President February 17, 1949 (November 29).

E-2497 denies petition of Eastern for reconsideration of the Board's order serial No. E-2350 insofar as it denies Eastern's motion filed on November 26, 1948, in the matter of an application filed by American and Delta for approval of interchange of equipment at Dallas, Tex. (Feb. 18).

E-2498 denies motion of Eastern to defer further procedural steps in the matter of the joint application of American and Delta for approval of an agreement relating to the interchange of equipment (Feb. 18).

E-2499 grants the Key West Chamber of Commerce leave to intervene in the Florida Trunkline Service case (Feb. 18).

E-2500 grants Monarch an exemption so that it may serve Montrose-Delta, Colo., as an intermediate point on any flight over segment 2 of route No. 73 when a corresponding flight over segment 4 of said route is cancelled due to weather conditions (Feb. 18).

E-2501 denies Wisconsin Central leave to intervene in the matter of the applications of the cities of Beloit and Janesville, Wis., and Rock County Airport Committee for air service to Beloit and Janesville (Feb. 18).

E-2502 orders that the approval of Agreement CAB No. 403, as amended, relating to sales agency rules, between certain air carriers as members of the Air Traffic Conference of America, be made subject to certain reporting requirements (Feb. 18).

E-2503 denies petition of National Airlines requesting reconsideration of the Board's order and opinion of January 5, 1949, in the matter of the investigation of the transfer of its routes and property (Feb. 21).

E-2504 grants Pan American permission to serve New York City after March 1, 1949, through the use of New York International Airport, in addition to its present use of La Guardia Airport (Feb. 23).

E-2505 terminates order of suspension of letter of registration No. 1508 issued on February 11, 1948, to Samoan Area Airways (Feb. 23).

E-2506 amends temporary mail rate for Western Air Lines over its routes within the continental United States and terminal points in Canada (Feb. 25).

E-2507 amends temporary mail rate for Inland Air Lines over its entire system (Feb. 25).

E-2508 approves interlocking relationships existing as a result of the holding of certain positions by Thomas W. Bowers in American Overseas Airlines and American Export Lines (Feb. 25).

E-2509 denies petition of Eastern Air Lines requesting that the Board issue a new order and hold a new prehearing conference in the matter of the investigation of the routes and properties of National Airlines (March 1).

E-2510 denies motion of National Airlines requesting that the Board dismiss or postpone the proceeding in the matter of the application of American Airlines and Delta for approval of interchange of equipment at Dallas (Feb. 25).

E-2511 consolidates the proceedings in Dockets Nos. 3589, 3590, 3591, and 3592, relating to certain agreements and transactions involving American, American Overseas Airlines, and Pan American to be known as the North Atlantic Route Transfer case (March 1).

E-2512 institutes a proceeding to determine whether, if the proposed transfer of the certificate of American Overseas to Pan American is approved, the certificates of American Overseas, Pan American, and TWA should be altered or amended, the proceeding to be known as the North Atlantic Route Transfer case (March 1).

E-2513 orders proceeding set down for early hearing in the matter of the application of Seaboard and Western Airlines for a certificate of public convenience and necessity; denies motion of said applicant for consolidation of this proceeding with the North Atlantic Route Transfer case (March 1).

E-2514 grants certain representatives of employees of American Overseas Airlines leave to intervene in the North Atlantic Route Transfer case (March 1).

E-2515 grants certain parties leave to intervene in the North Atlantic Route Transfer case (March 1).

E-2516 denies motion of the Association of Air Navigators to dismiss proceedings in the North Atlantic Route Transfer case (March 1).

E-2517 extends for an additional 6 months, temporary exemption from the provisions of § 403 (b) of the Act, granted to Delta Air Lines, insofar as such section prevents Delta from providing on regular scheduled flights, free transportation to technical employees of certain companies associated in the development of DC-6 aircraft, so as to permit travel by said employees on applicant's schedules (Feb. 25).

E-2518 consolidates into the Through Service Proceeding, the joint application of Chicago and Southern Air Lines and Delta in the matter of an agreement relating to the interchange of equipment (Feb. 25).

E-2519 orders Braniff to show cause why the Board should not fix a certain temporary mail rate over its Latin-American route, pending the establishment of a final rate (Feb. 25).

E-2520 grants Bahama Airways permission to serve Palm Beach, Fla., through the use of Palm Beach International Airport, effective March 1, 1949 (Feb. 28).

E-2521 grants Hawaiian Airlines temporary exemption from the provisions of § 403 (b) of the Act, so as to permit it to provide free transportation for certain United States Weather Bureau airways forecasters (Feb. 28).

E-2522 consolidates application of Pacific Overseas Airlines into the Hawaiian case; dismisses applications of Hawaiian Airlines and Western Air Lines at their request and rescinds and vacates orders granting certain parties leave to intervene in the proceeding (Feb. 28).

E-2523 consolidates petition of Northwest Airlines, Docket No. 3528, with the proceeding in Docket No. 2539, relative to the mail rates for its trans-Pacific operations (Feb. 28).

Military Aircraft Accepted Show Big Increase in 1948

Airframe weight of military aircraft acceptances during 1948, totaling 25,449,900 pounds, was more than double that for either 1946 or 1947. It slightly exceeded acceptances for 1940, the year just prior to our entry into World War II.

A 9-year record of military aircraft acceptances, in terms of airframe weight, follows:

Military Aircraft Acceptances	
Year	Airframe weight (lbs.)
1940.....	23,107,000
1941.....	81,422,000
1942.....	275,949,000
1943.....	654,657,000
1944.....	962,406,000
1945.....	540,531,000
1946.....	12,879,000
1947.....	11,335,000
1948.....	25,449,900

Monthly military aircraft and engine acceptances for the period January 1948 through January 1949 are as follows:

Military Aircraft and Engine Acceptances		
	Airframe weight	Engine horsepower ¹
1948		
January.....	1,253,600	na
February.....	1,464,800	na
March.....	1,267,700	na
April.....	1,207,900	na
May.....	1,425,600	na
June.....	2,837,000	1,409,600
July.....	2,363,600	2,428,000
August.....	2,660,100	1,606,500
September.....	3,002,600	2,478,300
October.....	1,738,000	2,509,700
November.....	2,632,400	2,455,300
December.....	3,276,600	2,439,300
Total.....	25,449,900	na
1949		
January.....	1,944,300	2,536,300

na=Not available.
¹Pounds thrust of jet engines have been converted to horsepower by the following formula: Hp equals thrustpower X desired speed (600 mph) divided by 375. One hp equals on lb. of thrust at 375 mph.

Traffic Data of Scheduled Carriers Given in Detail by Board Survey

The Civil Aeronautics Board last month issued the Airline Traffic Survey for the month of September 1947, the third in the semiannual postwar series of surveys. It includes detailed traffic data covering scheduled domestic, territorial, and international services of United States carriers.

International traffic reported by United States carriers for September 1947 totaled 101,160 passengers and 160,557,845 passenger-miles. Passengers traveling via United States carriers between the United States and international areas accounted for 82 percent of the total volume of passenger-miles; traffic between international areas as reported by United States carriers accounted for the remaining 18 percent.

New York City accounted for 52 percent of all international passenger-miles generated within the country. Together, New York City, Miami, San Francisco, Seattle, and Los Angeles accounted for 83 percent of international travel. The average distance of travel per passenger was 3,193 miles between the United States and countries in the Atlantic area, 3,300 miles between the United States and countries in the Pacific area, and 1,080 miles between the United States and countries in the Latin American area.

Total increases shown by September 1947 over September 1946 volume of traffic for domestic certificated air carriers were as follows:

Volume of Traffic

	September 1946	September 1947*	Per- cent of in- crease
Passenger originations and destinations.....	1,103,719	1,134,683	2.8
Passenger-miles.....	603,780,454	620,137,433	2.7
Station-to-station combinations in air passenger traffic.....	11,932	14,859	24.5
Stations receiving air service.....	273	365	33.7

*Includes traffic within Hawaii, Puerto Rico, and Virgin Islands; 30,316 passenger originations and destinations; 3,754,667 passenger-miles; 28 station combinations; 12 stations receiving air service.

Among the 365 domestic air stations served during September 1947, New York, Chicago, Los Angeles, San Francisco, and Washington ranked, respectively, 1-2-3-4-5, in number of passengers to and from those cities. In passenger-miles the top five rankings, in order, placed New York, Los Angeles, Chicago, San Francisco, and Washington. These top-ranking cities accounted for 33.5 percent of all domestic passengers, and for 42.8 of total passenger-miles. (New York totals include Newark as a copoint, and San Francisco totals include Oakland.)

In domestic station combinations for all passengers ticketed, the top 100 pairs of stations accounted for nearly one-half of the total traffic for the 14,859 station combinations reported. Of all pairs of stations, by passenger totals New York-Boston, Los Angeles-San Francisco, New York-Chicago, New York-Washington, and Chicago-Detroit ranked, in that order, 1-2-3-4-5; by passenger-miles in the top five places, the order was New York-Los Angeles, New York-Chicago, New York-San Francisco, Chicago-Los Angeles, and New York-Miami.

Base station summary tables in Volume 1 list each of the 365 domestic stations receiving air service during September 1947 and show total traffic data by station-passengers originated or terminated, passenger-miles, relative rankings by passengers and passenger-miles, average length of passenger flights, and number of stations with which passengers were exchanged. Interstation summary tables in Volume

1 list in rank order, by passengers and passenger-miles, the 100 top-ranking pairs of domestic stations in the interchange of traffic. Comparable summary data for international traffic are shown in Volume 5.

Assembled by the Civil Aeronautics Board's Analyses Division, the survey report is based on traffic data furnished by the United States domestic, territorial, and international air carriers in operation during September 1947, and by the Air Transport Board of Canada.

The report comprises 5 volumes in two divisions—domestic and international: the basic material for each division is subclassified, as in the past, into two subdivisions—"Origination-Destination Airline Traffic Survey of Revenue Passengers," and "Station-to-Station Airline Traffic Survey of Revenue Traffic by Classes." The former includes statistics of United States-Canada transborder traffic via both United States and Canadian air carriers; data were furnished by scheduled carriers of both countries under a co-operative arrangement between the Civil Aeronautics Board and the Air Transport Board of Canada.

Volumes 1-3 comprise the domestic and territorial origination-destination airline traffic survey (Volume 3 includes the transborder section); Volume 4, the domestic and territorial station-to-station traffic survey; Volume 5, all data covering international traffic: origination-destination of passengers, and station-to-station flow of all classes of traffic.

Volume 1 contains summary comments covering domestic and territorial traffic; technical notes applicable to data in Volumes 1-3; illustrative maps; 5 summary tables; mileage tables by carrier; and 2 station and carrier coding and decoding sheets for use with Volumes 2-3. Volumes 2 and 3 contain the detail, by station, of passenger originations-destinations and routings in domestic, territorial, and United States-Canada transborder traffic.

Volume 4 contains comments and technical notes; 12 illustrative maps; selected route data in aggregate; domestic and territorial station-to-station detail by carriers and operating segments, showing average daily traffic flow by number of passengers, pounds of mail, express, and freight, revenue capacity available in seats and total tons, load factors (percentages) for revenue passengers and total tonnage loads.

Volume 5, comprising the complete report of international traffic, contains summary comments and technical notes; 9 illustrative maps; 12 summary tables; mileage tables; 2 coding and decoding sheets for stations and carriers; and the detail by carrier and station of passenger origination-destination and station-to-station traffic data.

The Airline Traffic Survey for September 1947 may be purchased from the Superintendent of Documents, Government Printing Office, Washington, 25, D. C. by the set or by the volume. Volume 1 is being sold for 50 cents; Volumes 2 and 3 at \$1.50 each; and Volumes 4 and 5 at \$1.25 each.

Booklet Discusses Air Traffic Rules

An 18-page booklet, entitled "Air Traffic Rules Guidebook," which contains information of particular interest to flight instructors and student pilots, is on sale by the Superintendent of Documents, U. S. Government Printing Office, for 10 cents a copy.

CAA and CAB Releases

Copies of CAA releases may be obtained from the CAA Office of Aviation Information. CAB releases are obtainable from the Public Information Section of the Board. Both offices are located in the Department of Commerce Building, Washington 25, D. C.

Administration

Pilots Praise New High-Intensity Runway Lights, CAA Reports (March 3).

Municipal Airports on Increase CAA Monthly Statistics Reveal (March 8).

CAA Announces New Edition of Aircraft Powerplant Handbook (March 14).

Federal Airport Program Highlights, February 1-February 28 (March 28).

Friends Won by Planes in 1948 Blizzard Mean Boost to Flying (March 30).

CAA Making Third Survey of Aircraft use for Industry (March 31).

Address by D. W. Rentzel, Administrator of Civil Aeronautics, at President's Luncheon, Institute of Radio Engineers, entitled, "The Program for New Aids to Air Navigation," Commodore Hotel, New York, N. Y. (March 8).

Board

September 1947 Airline Traffic Survey (CAB 49-12) (February 24).

CAB Statement of Policy on Economic Program for 1949 (CAB 49-13) (February 21).

Hearing Set on Pacific Airline's Aircraft Missing Since November 4, 1948 (CAB 49-14) (February 25).

Hearing Set on Pan American Airways-Cessna Collision Near Port Washington, L. I. (CAB 49-15) (February 25).

Mileage and Traffic Statistics for November 1948 (CAB 49-16) (February 2).

CAB Denies Extension of Expiration Date of Florida Airways' Certificate (CAB 49-17) (March 7).

CAB Appoints Crozier Special Adviser (CAB 49-18) (March 9).

Statement of Policy With Respect to Mail Rate Program for Alaskan Air Carriers (CAB 49-19) (March 18).

Mileage and Traffic Statistics for December 1948 (CAB 49-20) (March 21).

CAB Appoints C. Gernard Slebos Head of Analyses Division (CAB 49-21) (March 21).

Joint Use of Facilities Studied as Economy Move

The Civil Aeronautics Board has issued an order instituting an investigation to determine the feasibility of additional joint use by the certificated trunk line air carriers of ground and other facilities, whether such joint use would result in more economical and efficient operation and to what extent the dependence of the carriers for mail pay support may be reduced by additional joint use agreements.

In announcing the investigation, the Board said that "the Congressional Aviation Policy Board found that we 'should encourage action by the air carriers to achieve over-all economies, particularly by joint operation of airports and meteorological services, ground contract services, and consolidated ticket offices.'

"It is recognized," the Board's statement continued, "that the carriers have already achieved certain savings by cooperation in these functions. The investigation instituted on this subject is to determine the full possibilities of further savings which might be realized in the ground operation and traffic and sales functions of the carriers, particularly through the employment of additional joint use contracts between carriers."

Agricultural and Private Flying Called Hope of Aircraft Industry

"Agricultural flying and private flying together can make a new major industry in the United States," D. W. Rentzel, Administrator of Civil Aeronautics, told non-scheduled and fixed-base operators of the Southwest in Fort Worth, Tex., March 7.

"I do not believe aircraft manufacturing will ever amount to a major industry so long as it is based upon air transport and military aircraft construction," he said. "But as we aggressively follow up the growing activity in the use of the airplane in agriculture, and as we widen the appeal of the personal plane, we will build up a tremendous business for everybody in the industry. It is in this direction that the CAA proposes to work, obeying the instructions given us in the Civil Aeronautics Act of 1938 to 'encourage and foster the development of civil aviation.' Both these activities are especially important to you who are operating air services in this big western country."

Mr. Rentzel declared that plane operators have barely started into the great field of agriculture, in spite of the large volume of business done in 1947 and 1948 in the control of weeds through aerial spraying. Of the estimated 10,000,000 pounds of the new weed killer 2,4-D used in 1948, he said, only 9 percent was applied from the air. Since about 1 pound of this chemical is used per acre, this shows nearly 1,000,000 acres were treated from the air. Granting that the airplane is useful for this purpose only under certain conditions, there still remains a great area for expansion, he said.

The greatest possibility faced by the aviation industry, however, is in promotion of private flying, Mr. Rentzel said. "Here," he said, "the need is for an improved airplane, one with greater utility, as the inescapable solution. Such an airplane should be able to take off and land safely in a 2-acre space. To increase its safety and utility, it should be able to fly under complete control at a speed of less than 30 miles an hour, still retaining a reasonable top speed; and if possible, it also should be roadable. This kind of performance would attract many hundreds of thousands of persons who today are doubtful of the airplane's safety, and who find it does not prove useful in their daily lives."

The conference, attended by about 300 operators of the states of Arkansas, Oklahoma, New Mexico, Texas, and Louisiana, vigorously discussed the problems and opportunities of the "fixed base" operators. New developments in agriculture occupied a good deal of the time, and a demonstration of six devices for dusting and spraying from the air, was staged. Some 20 resolutions were adopted referring to proposed changes in the Civil Air Regulations, new flying aids, an improved personal plane, and to various aspects of the fixed base operators' business.

30 More Grant Offers Made to Airport Sponsors

Thirty more grant offers for airport construction or development were made under the Federal Aid Airport Program during the month of February, D. W. Rentzel, Administrator of Civil Aeronautics, announced March 28.

The grants during the month involved \$3,082,291 in Federal funds. Grant offers to date number 668 and represent \$68,628,737 in Federal funds. Of the grant offers made during February two were for work on Class I airports, five for Class II airports, eight for Class III airports and 15 for Class IV and larger fields.

Of the total grant offers to date 158 were for Class I airports, 162 for Class II airports, 168 for Class III airports and 180 for Class IV and larger airports.

Route Segment Studies Are Ordered by Board

The Civil Aeronautics Board has issued three orders instituting route segment proceedings in connection with its economic program for 1949.

One order instituted a proceeding to determine whether it would be in the public interest to alter, amend, modify or suspend United's Route 1, TWA's Route 2, Capital's Route 14, or American's Route 25 to prevent any one or more of these carriers from engaging in one-stop or non-stop operations between Washington and Chicago. The proceeding will also determine whether the public convenience and necessity require the elimination or suspension of United's route from Toledo to Washington and the institution of an interchange between United and Capital at Chicago.

Another order instituted a proceeding to determine whether it would be in the public interest to alter, amend, modify, or suspend Northwest's certificate between Detroit and Washington, and Capital's certificate between Milwaukee and the Twin Cities, and whether it would be in the public interest for these two carriers to enter into an equipment interchange agreement respecting these routes.

A third order instituted a proceeding to determine whether it would be in the public interest to alter, amend, modify, or suspend the certificates of United, Northwest, American, or Capital so as to eliminate, suspend, or restrict the authority of any of these carriers to provide Detroit-New York service and whether Capital and Northwest should establish equipment interchange at Detroit.

Frank H. Crozier Appointed Special Advisor to Board

The Civil Aeronautics Board last month appointed Frank H. Crozier to the position of Special Advisor to the Board. Mr. Crozier, formerly Chief, Analyses Division, Bureau of Economic Regulation, has been head of the Economic Bureau's economic analysis and research work since he came with the Board in 1939. He succeeds Irston R. Barnes who resigned as special advisor to become connected with the Federal Trade Commission.

At the same time the Board announced that Edward A. Bolster has been appointed Assistant Director (International) of the Bureau of Economic Regulation. Mr. Bolster, Chief of the Bureau's Operations Division since October 1945, when he came with the Board, succeeds Robert J. G. McClurkin who was recently appointed Director of the Bureau of Economic Regulation.

Joseph C. Watson succeeds Mr. Bolster as Chief of the Operations Division. Mr. Watson, with the Economic Bureau of the Board since March 1939, was previously Chief of the Registration and Investigations Section of the Operations Division.

Proposals to Increase Airline Gross Revenues To Get Study by CAB

"We will continue during the coming year to give careful consideration to tariffs filed by the carriers aimed at increasing their gross revenues," the Civil Aeronautics Board said recently in a statement on its economic policy for 1949.

"Unless, and until, a downward trend in airline operating costs is apparent," the statement continued, "we feel that the general rate levels should not be adjusted downward. In this respect we except experimental and developmental service designed to operate at less than normal costs, and rates designed to secure new traffic. Currently, several promotional types of passenger service are the subject of experiment which the Board is following with close interest."

"With respect to freight rates, we have had under investigation for some time certain tariffs filed by the carriers which, in our opinion, would have reduced the rates to levels unreasonably low in relation to costs, despite the fact that the rates in question were not below the minimum levels which we established in our order of June 2, 1948, in the *Air Freight Rate* case."

"With the rapid growth of the air freight industry, we believe it is the responsibility of the Board and the carriers to give consideration to a structure of rates which will recognize the differing transportation costs and value characteristics of various classes of traffic. Accordingly, the Board has instituted a proceeding to explore the feasibility of a system of class freight rates."

"As sufficient flying equipment became available after the war, programs of air freight development were undertaken. In recent months a number of experiments have also been initiated looking towards penetration of the mass passenger markets which lie below the levels of luxury air transportation. It is believed that with continued progress in the development of aircraft and operational techniques, air transportation is designed to penetrate markets not hitherto deemed economically feasible. It is the Board's purpose to encourage such development as appears to offer reasonable prospects of immediate economic justification. We intend to conduct close and continuing review of the impact of such development upon the soundness of the air transportation system."

The Board stated that it would set down for early hearing certain applications for international freight operations. "The purpose of this action," it was stated, "is to determine whether public convenience and necessity requires the certification of one or more specialized freight carriers in this field. The principal issues will be whether the public interest requires such service; if so, whether it can be conducted economically on a continuing basis; and whether it should be provided by applicants yet to be certificated or alternatively by existing certificated carriers."

The Board also stated that it would set down for early hearing certain applications for certificates of public convenience and necessity to conduct trans-continental coach service. "The principal issue in this proceeding," the Board said, "will be whether there is a need for such service; if so, whether it can be conducted economically on a continuing basis; and whether it should be provided by applicants yet to be certificated or alternatively by existing certificated carriers."

Ground Loads Handbook on Sale

Bulletin ANC-2a, entitled "Ground Loads Handbook," is on sale at 15 cents a copy by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

es
1B

year
d by
gross
said
olicy

irline
nued,
ot be
per-
erate
ecure
es of
which

under
y the
d the
costs,
e not
ed in
case.
ustry,
d the
rates
costs
traffic.
ng to
rates.
ilable
ment
er of
wards
ch lie
It is
velop-
trans-
herto
pur-
rs to
nomic
ntinu-
upon

early
eight
was
ience
more
ncipal
quires
eco-
er it
cated

n for
es of
trans-
n this
there
an be
; and
to be
cated

Hand-
perin-
inting

RNAL